Graduate School of Education

The Pedagogical Affordances of Social Media Twitter, Facebook and WhatsApp in Higher Education in Saudi Arabia

Submitted by

Yaser Abdullah M. Alkhabra

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I certify that all material in this thesis which is not my own work has been identified and that no material has previously been submitted and approved for the award of a degree by this or any other University.

Signature: …….

Abstract

This study has been conducted to explore the students and teachers' perception of the pedagogical affordances at the University of Ha'il in Saudi Arabia. Three social media that this study aims to explore its pedagogical affordances are: Twitter, Facebook and WhatsApp. The participants in this study might perceive different affordances of each tool based on its own functions and actual use. Therefore, the context of using social media was explored in order to gain deep understanding of this issue in light of the socio-cultural theory as the theoretical framework of the study.

In terms of the research methodology, this study adopted a case study using observation of classroom, observation of the students and teachers' interaction on the social media, and semi-structured interviews to collect qualitative data. The sample comprised eighteen respondents; three teachers and fifteen students. Each teacher and five students attended different class and used different social media platforms.

The study concludes that the pedagogical affordances of the social media are: the social construction of knowledge, reflection, connectivity and collaboration. Furthermore, students and teachers' social, teaching and cognitive presence shaped their perception of the pedagogical affordances of social media which was, in turn, contribute to their digital identity development and their understanding of agency on social media. Besides, various challenges facing the implementation of social networking sites were also discussed and highlighted.

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To my parents, my wife and my children

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1 CHAPTER ONE: INTRODUCTION

1.1 Introduction

This chapter presents an overview of the study and the gap in the literature that the study seeks to cover. In addition, this chapter sheds light on the theoretical framework adopted by this study. It also presents the research significance followed by the research questions. Furthermore, it presents an overview of the research design. Additionally, a brief description of the contribution to knowledge is presented. Lastly, both the thesis structure and some details regarding each chapter are presented in this chapter.

1.2 Gaps in Research on Higher Education in Saudi Arabia

As a result of the tremendous development in modern communication technologies, many social networking websites emerged in the past ten years, which have supported a new type of communication among users from all over the world such as a video call or a video group call. In addition, it supports many forms of mutual messages such as sounds, images, videos, and documents. This in turn helps to exchange experiences, whether cultural, social, economic or political, among individuals in virtual communities in an effective and rapid manner, especially with the remarkable development of smartphones and the information revolution. Therefore, it is not surprising that all these social media platforms are progressively demanding that technology must be used in educational practice across the world to enhance learning and teaching methods in educational and academic institutions. In order to fill the gap between students, the implementation of social networks in education is now in high demand by institutions, and the reason is that most of them use social media in the classroom. With the social media, the classroom nowadays is seen as a social

network which means that it has a set of relationships based on different principles such as collaboration and sharing to achieve ultimate objectives. The fact is that social media adoption in education affects school activities by encouraging education marketing, which makes education a commercial activity like other trade activities. The classrooms, therefore, has changed into a socially connected one and the knowledge and learning experiences are no longer restricted to the classroom itself.

In addition, the fact that the use of social networks is considered as a new trend in the context of higher education, the need to conduct more studies is evident to explore the affordances and the nature of this implementation from different perspectives. The Department of Education Technology in Ha'il, Kingdom of Saudi Arabia for example, is one of the entities that have unofficially adopted the use of social media in the ICT module in order to equip students with the experience and skills required to use social media in this module and in their careers in schools. Thus, exploring students' and teachers' perceptions of the pedagogical affordances, their identity and agency is considered important to cover the gap in the literature, specifically in Saudi Arabia due to the lack of study in this area.

As it is shown in the Literature Review Chapter (Chapter Three), several studies were reviewed regarding the use of social networks in higher education in order to enhance teaching and learning processes or exploring their affordance according to the learners' teachers' perspectives.

To my knowledge, few studies have explored the technical affordances of social media. Bouhnik & Deshen (2014), for example, conducted a study to explore classroom communication that took place among teachers using WhatsApp from

students' perspectives. This study found a number of technical advantages of WhatsApp such as its "simple operation, low cost, availability, and immediacy" (p. 2017). In addition, it found that teachers' presence in WhatsApp played a crucial role in the successful use in education. However, we must consider making technology a meaningful contribution to enhance the process of teaching and learning. When studying the perception of students and teachers using digital technologies, their pedagogies must be taken into consideration, in addition to the context in which teaching and learning take place.

Moreover, Facebook has been employed to improve student engagement by providing course material and grades as part of a Facebook group (McCole, Everett & Rivera, 2014) and to develop student engagement through course activities, as well as to support a community of practice on a Management Information System (MIS) course to enhance learning (Racthman & Firpo, 2011). Likewise, Twitter has been used as a classroom tool (Lin, Hoffman & Borengasser, 2013) and students' grades have been found to be affected by its use (Junco, Heiberger & Loken, 2011). Moreover, WhatsApp has been found to facilitate communication between students and teachers alike through providing a social environment for discussion and dialogue, as well as encouraging the sharing of resources among students (Bouhnik & Deshen, 2014).

In the Saudi context, a number of studies regarding the use of social media in education have been conducted, but it appears that most of the studies focused mainly on the participants' views of social networks use. Most of these studies were quantitative in nature, so some important aspects need more in-depth exploration using qualitative approaches to understand participants' views of social networks use.

Substantially, there appear to be a lack of detail in students and teachers ' perceptions of the university's social media affordance, particularly, in Saudi Arabia where, as far as I am aware, there is a lack of research that focuses on social media in higher education. It is important to mention here that Al Ibrahim's (2014) study was the only one that focused on the pedagogical affordances of social media in higher education in Saudi Arabia. The fundamental difference with the current study is that Al Ibrahim's study focused on two tools, namely, blog and the Hive. Her study was also conducted on female students at King Saud University. The current study, however, focuses on the most popular social networks in the KSA, namely, Twitter, Facebook and WhatsApp, which may have an impact on the formation of students' and teachers' perceptions of pedagogical affordances of social media. In addition, this study sample mainly focuses on male students due to the gender segregation in the education system in Saudi Arabia. Finally, the current study seeks contribute to knowledge by exploring the pedagogical affordances of new technologies such as social networks in education and ways to benefit from them

1.3 Theoretical Framework

The main purpose of the current study is to investigate Saudi Arabian students' and teachers' perceptions of social media affordances at the university of Ha'il. The participants' perceptions in this study might be shaped by the influence of the contextual aspects in which they interact. Thus, I believe that selecting an appropriate theoretical framework for any study, in light of its purpose, is necessary because it can help the researcher understand the phenomenon and discuss its findings. It was therefore appropriate to adopt the sociocultural theory in this study to understand the participants' use of social media, perceptions, identity and agency development. Identifying contextual aspects that the study

takes into account when discussing the results of the studies in order to gain a new contribution to knowledge and the perception of social media affordances by participants can help educators to decide to accept or reject its use in education. Beside the sociocultural theory, the affordances theory has been used, as well as acquisition and participation metaphors, identity and agency, and the community of inquiry framework. These frameworks helped me broaden my understanding of the issues under investigation. For instance, the use of affordances theory aims to explore the perceived affordances of social media whereas, acquisition and participation metaphors are used to identify the kind of students' participation in social media. Likewise, the community of inquiry was implemented as an analytical framework to classify students' and teachers' messages in the social media based on social, teaching and cognitive presence. The use of these concepts effectively contributed to the interpretation of participants' activities and their perceptions regarding the affordances of social media in the light of the sociocultural theory.

1.4 Significance of the Study

In light of the findings, this study seeks to contribute to knowledge by providing significant information regarding the pedagogical affordances of social media in education that might support teaching and learning in higher education in Saudi Arabia. in addition, it could encourage policy-makers to meet the community's demands through the implementation of social media in education based on the significant findings and recommendations. In addition, it could help staff at the University of Ha'il to promote social media use in education by developing instructional design principles in line with the nature of the use of social media in education, and the formulation of conditions and policy of use by teachers and students alike. In addition, the University of Ha'il may develop a training

programme for the design of courses based on social, and formulate terms and policies of social media use in education.

1.5 Research Questions

This study cannot be undertaken without a set of questions deemed most relevant towards this objective, which is investigating the impact of social media on education in terms of pedagogical practices in the College of Education at the University of Ha'il. With regard to this study, the main research question is formulated as follow:

- How social media networks namely Facebook, Twitter and WhatsApp affects students and teacher's pedagogical affordances? And how to engage toward the integration of social media in schools.

Accordingly, the following related questions were designed:

i. What affordances do the students' and teachers' perceive from the use of social media in higher education?

ii. How does the students' prior experience with social media influence their use of such media in the *Education and Communication Technologies* module?

iii. What are students' and teachers' views of the benefits of social media networks for learning and teaching?

iv. What are the potential impacts of social media on teaching and learning in higher education?

v. How is digital identity constructed and perceived by students and teachers?

1.6 Overview of the Research Design

The research design in terms of methodology is defined by the nature of the questions designed in the course of this study. This is applied to the College of Education at the University of Ha'il in Saudi Arabia. It discusses the pedagogical affordances of social media networks as they are perceived by both students and teachers. A case study has been adopted which was the main research methodology to engage with the study's context. It has been used for the elaboration and conduction of this study; also, I built on an observation as well as semi-structured interviews. Both methods were explored to draw a whole picture of the issue under investigation. It was mainly used to engage with the study's context to collect data from students and teachers at the university of Ha'il in order to address the research study's major question: What are the pedagogical affordances of social media, namely, Facebook, Twitter and WhatsApp in higher education in the Kingdom of Saudi Arabia?

First, the observation was used as a method of investigation in the classroom and reading the students and teachers' posts, videos, photos and groups in order to understand and get a wide view of the students' interaction reflected by their shared activities in terms of their educational tasks. Later, an analysis was applied to these diversified postings, in light of the community of inquiry framework, in order to inquire the influence of social media on learning and teaching related activities.

The second method applied to both students and teachers was a sequence of semi-structured interviews. The main objective of these interviews is to help me understand the context of the use of social media in educational tasks. Interviewing here is meant to open a space for self-expression for both students

and teachers regarding their experience with the use of social media networks. Furthermore, this type of interview gives me good flexibility with the questions asked and its order. I carried out semi-structured interviews with three teachers and fifteen students from three different classes. Each class used different social media, was taught by a different teacher and used a different tool (Twitter Facebook and WhatsApp). Collecting data from three different groups allowed me to gain different perceptions regarding the pedagogical affordances of social media. In the Methodology Chapter (Chapter Four) I present more details about the research design and the data analysis procedures.

1.7 Contribution to Knowledge

This study presents an important addition that might be implemented by teacher educators and universities to improve education programmes in higher education in relation to the use of social media by students and teachers. Furthermore, this is one of the most important concepts that the thesis seeks to come up with at the end of this study. Contribution to knowledge was ultimately elicited from the study's findings that were discussed in light of the theoretical framework and the literature review.

The Conclusion Chapter (Chapter Ten) presents substantial contributions to theory and practice related to the use of social media in teaching and learning. In addition, the contribution relates to the development of teachers' and students' identity and agency as a result of their perceptions of the pedagogical affordances of the three social media (Twitter, Facebook and Facebook). Similarly, the study provides useful insights and discusses in more detail the possibility of implementing social media in higher education, whether by policy makers, universities, teachers and students in order to achieve the successful

adoption and integration of social media in teaching and learning and reduce the technological gap between students in higher education.

1.8 Structure of the Thesis

As far as the organization of this thesis is concerned, it was divided into ten chapters that I present as follows:

Chapter One: introduction

This chapter has presented an overview of the study, its motivation, significance and research questions as well as the theoretical framework and the research design adopted in this study. It also presented the contribution to knowledge. Finally, the thesis structure and some details regarding each chapter are presented.

Chapter Two: the study context.

This chapter is devoted to present the study context. It comprises brief information about Saudi Arabia that helps understanding the study context such as the population, the education system and national projects for ICT in Saudi Arabia.

Chapter Three: literature review

This chapter is reviews the literature on ICT and the introduction of social media in higher education in order to identify the gap that this study seeks to cover. It also presents some theoretical concepts guiding the research such as the socio-cultural theory and the concepts of affordances in pedagogy, identity and agency.

Chapter Four: methodology

This chapter highlights the research methodology and design used in order to account for students' and teachers' perceptions of social media affordances in

the field of higher education. This chapter starts with the research objectives and questions. Then, the research paradigm, ontology and epistemology are presented. Furthermore, various methods guiding the research are discussed including semi-structured interviews, classroom observations and observation of students and teachers' interaction on social media. In addition, relevant issues are discussed such as the participants, the data collection procedures, the theoretical considerations related to the analysis as well as the ethical considerations of the study.

Chapter Five: findings (part one)

This chapter presents the first part of the empirical outcomes obtained from participants' views regarding the challenges of using social media networks in higher education. This chapter aims to illustrate the main implications of the students' use of social media networks including personal, social and pedagogical implications relevant to the use of the three social media networks, namely, Facebook, Twitter and WhatsApp. This is supported by quotes from students and teachers.

Chapter Six: findings (part two)

This chapter deals with the analysis of the findings of the research in terms of the Twitter affordances, namely, technical and pedagogical.

Chapter Seven: findings (part three).

This chapter is devoted to the analysis of the affordances strictly related to Facebook.

Chapter Eight: findings (part four)

This chapter is devoted to the analysis of the affordances strictly related to WhatsApp.

Chapter Nine: discussion

The primary objective of this chapter is to provide answers to the primary research questions in relation to the wider literature and the qualitative data analysis. Having used to the socio-cultural concept as a lens which allows the analysis of the results, the chapter provides general discussions and interpretations that emerged from the data analysis, presented in chapters Five, Six, Seven and Eight.

Chapter Ten: conclusion.

This chapter outlines the study and its principal results. It discusses the study's contribution to knowledge including theoretical and practical contributions. It also discusses the study's limitations and presents justifications for these limitations. The suggested implications of this study are also presented in this chapter including implications and recommendations for policy makers and educators in higher education and universities.

1.9 Summary of the Chapter

In this chapter, I have discussed the rationale of the study in order to present the main gap in the literature that the current study seeks to bridge. In addition, I have moved to present the study's theoretical framework, followed by the research significance and its questions. Then, I briefly presented an overview of the research design followed by the contribution to knowledge of this study. Moreover, the structure of the thesis with a brief description of each chapter has been presented at the end of this chapter. The following chapter presents the

reader with potential contextual aspects that might shape the students' and teachers' perceptions of social media affordances.

2 CHAPTER TWO: STUDY CONTEXT

This chapter is concerned with presenting adequate as well as relevant information regarding the country of Saudi Arabia and the development of its information technology infrastructure as well as the aspirations and future initiatives meant to integrate new technologies in its educational system. Thus, this chapter will provide details about various subjects, including, an overview of the country and the use of internet, then the higher education system in the country and the ICT integration is briefly presented.

2.1 General Background on Saudi Arabia

The Kingdom of Saudi Arabia emerged in 1932 under the leadership of King Abdalaziz Bin Abdalrahman Al Saud. Saudi Arabia is an Arab, Islamic country and thus, its constitution is based on both the Quran and the traditions of Prophet Muhammad, peace be upon him. Its capital is Riyadh; the official language is Arabic. However, English is used as a second language in some colleges, institutions as well as companies.

The Kingdom of Saudi Arabia is located in the southwest of Asia in the Middle East and comprises an area of more than 2,000,000 km2, as shown in Figure 1.1. The Kingdom of Saudi Arabia has 13 administrative regions. These include Riyadh, Makkah, Madinah, Qasim, Eastern Province, Asir, Tabouk, Hail, Northern Border, Jizan, Najran, Al-Baha and Al-Jouf (saudi.gov.sa, 2015).

The population of the Kingdom of Saudi Arabia was given as 27,136,977, including 18,707,576 Saudi nationals, according to the 2010 census. In 2017, the total population reached 31,742,308 according to the Central Department of Statistics and Information (2017, see Figure 2.1). The proportion of gross

enrolment in primary education in 2009 was 99% (stats.gov.sa, 2015), indicating the community's awareness of the importance of education for both genders.

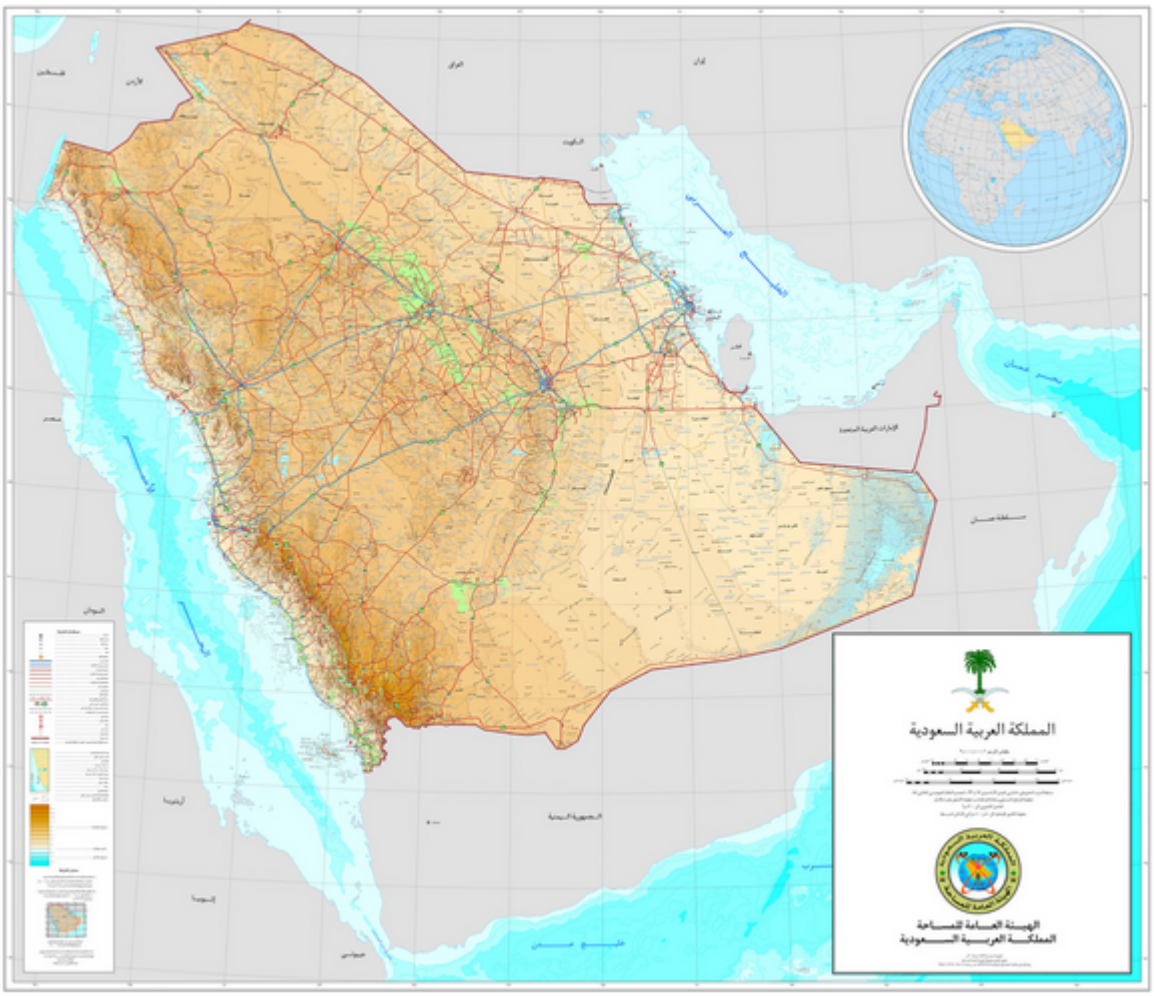


Figure 2.1: Official Map of Saudi Arabia

(https://www.gcs.gov.sa/en/ProductsAndServices/Products/PublicMaps/Pages/Official-Map-Of-The-Kingdom-Of-Saudi-Arabia.aspx).

2.2 The Internet in the Kingdom of Saudi Arabia

Internet services were officially activated in Saudi Arabia in 1997 and today have become an integral part of Saudi society. Based on a survey by the Communications and Information Technology Commission (CITC), in Saudi Arabia, the use of the Internet in society including by individuals in the educational field has risen from 5% in 2001 to 41% in 2010. Moreover, the number of Internet

users in the Kingdom of Saudi Arabia which was estimated at 11.4 million in 2010 has increased to 24.1 million users in 2017 (internetworldstats.com). This means that about 73.8% of the population comprise of internet users. Moreover, the number of Facebook users has increased to approximately 18 million, representing 55% of the population. Apparently, this rapid change in Internet usage over the last few years indicates the openness of society towards the use of technology (for more detail, see the literature review in Chapter 2). This may be because of the increasing strength of the economy in Saudi Arabia and its young population (General Authority for Statistics, 2017).

The use of the Internet is the main reason for computer usage in Saudi Arabia. For people aged between 15 and 60 years, computer ownership is about 77% while the availability of computers in the government sector in 2017 was about 97% meaning that most employees have access to the Internet. Computers are used by users aged 15–24 years old to communicate with others via the Internet, to listen to clips and to watch movies. However, the number of people who use computers to save documents and play games or for educational purposes is declining each year (CITC, 2017).

Also, the widespread use of smartphones/mobile devices has also contributed to the use of the Internet among members of the community. The CITC (2017) indicated that the number of subscriptions to mobile telecommunications services has also increased. Thus, there is considerable demand for the Internet, including applications for communication, such as social networks. Besides, the new generation has skills and characteristics that distinguish it from the previous generation (for further detail, see the literature review). This new generation may have the perception that educational institutions, including teachers, equipment

and curricula are in line with their aspirations concerning the use of technology in education (Thompson, 2007, as cited in Al Ibrahim, 2014).

2.3 A Review of Education in Saudi Arabia

2.3.1 Pre-primary education

This is the initial stage of learning (nursery school) for children aged 3–5 years. Despite the significance of this stage, it is not necessary for children to be enrolled in nursery school to be accepted at the primary level. Nevertheless, this stage helps in preparing the child to register in primary school by providing age-appropriate educational programs (Alsenaidi, 2012).

2.3.2 General education

General education in Saudi Arabia is free and compulsory, and it splits into three levels (primary, intermediate and secondary). These three levels are essentially based on the chronological age of the learners.

2.3.2.1 Primary education

In all countries, primary education is a critical stage, forming the primary basis of student learning and building their personalities. As in other phases of learning in Saudi Arabia, study at the fundamental level is free for students, and usually, this stage starts at the age of six years. During this phase, which consists of six academic years, students are assessed by teachers continuously until they gain a Primary Education Qualification (Alsenaidi, 2012).

2.3.2.2 Intermediate education

Intermediate education consists of three academic years. Typically, this stage begins after the students obtain the Primary Education Certificate at the age of 11 years. Pupils start with intensive education in diverse subjects, such as

English language, mathematics and science (introduction to chemistry, biology and physics). Besides, students need to pass all examinations to move to the next stage, namely the secondary level (Alsenaidi, 2012).

2.3.2.3 Secondary education:

The final stage in general education is the secondary school. This involves three academic years in which the student's specialisation is defined after completing of the first year. There are two disciplines from which students can choose. These include sciences, arts or literature. Obtaining a Secondary Education Certificate qualifies students to enter university based on the specialisation selected at this stage (Alsenaidi, 2012).

2.3.3 Higher education

2.3.3.1 Historical development of higher education

The first university to be established in Saudi Arabia was the King Saud University in 1957 when higher education was under the umbrella of the Ministry of Knowledge in order to meet the growing need for higher education, the Ministry of Higher Education was instituted in 1975 to manage institutions offering “certificates/diplomas, associate degrees, bachelors’, masters’ and PhD programs” (Al Ibrahim, 2014, p. 37). The number of these institutions includes 25 public universities, nine private universities, and 34 private colleges with high capacity, and geographically distributed across the Kingdom of Saudi Arabia regions (Ministry of Education, 2017).

In order to provide a proper environment for achieving the desired objectives, universities have received substantial government support through the allocation of large budgets to cover all their needs. Moreover, they have been given the

power to take administrative and academic decisions independently (Alsenaidi, 2012; Al Ibrahim, 2014; Ministry of Education, 2017). Besides, the Ministry of Education has taken great interest in research by establishing research centers, holding seminars, as well as hosting conferences to give faculty members the opportunity to engage in scientific research and activities in different fields. The government has also provided many scholarships for Saudi students to study abroad in higher education. The primary objectives of sending students overseas, in particular to Western countries, is to raise the level of individuals' education as well as enable the transfer of new experiences needed for both universities as well as the labour market.

2.3.3.2 Strategic objectives of higher education:

Higher education has long term goals, as declared in the Educational Policy Charter:

1. *To advance the doctrine of loyalty to God, by endeavoring to equip the student with Islamic culture to be able to recognize her/his obligations before God for the Nation of Islam, to have valuable scientific and practical abilities.*
2. *To prepare highly-qualified citizens who are scientifically and intellectually able to perform their duties in the service of their country as well as the advancement of their nation, under the principles of Islam.*
3. *To give an opportunity to the talented students in postgraduate studies of science disciplines.*
4. *To play a decisive role in the field of scientific research, which contributes to the track of global progress in arts, science and inventions,*

and to find the right solutions appropriate to the requirements of life and the technological trends.

5. *To promote the movement of authorship and scientific production, adapting sciences that serve the Islamic idea, and show leadership in building civilization on valued principles, which leads humanity to righteousness and enlightenment, and avoid distortions of physical and atheistic beliefs.*
6. *To translate knowledge of science and useful arts to the language of the Quran [Arabic], and the development of the wealth of the Arabic language (terminology), to meet the needs of Arabization and make knowledge accessible to the most significant number of citizens.*
7. *To implement training services and innovative studies to post-graduates who are in employment to introduce innovations to them*

(Alebaikan, 2010, p. 17).

2.3.4 The University of Ha'il

The University of Ha'il (UoH) was founded in 2005 and was open to students in 2006 (UOH, 2011). It was the first university in the Hail region, a region that occupies an area of 118,232 km2, with a population of more than 700,000 (Hail.gov.sa, 2011). The primary language approved by the university is English, and all students are instructed in English save for the subjects in Islamic Studies, Arabic material and the College of Education. The university consists of 15 colleges. These include the College of Engineering, College of Education, College of Sharia and Law, College of Dentistry, College of Health Sciences, College of Medicine & Medical Sciences, College of Nursing, College of Arts,

College of Sciences, College of Computer Science & Engineering, Community College, College of Business Administration, etc. (UoH, 2011).

2.3.4.1 Strategic objectives of UoH:

UoH seeks to accomplish particular goals to gain leadership in technical and scientific disciplines in the Middle East (UoH, 2011). The university has five strategic objectives, as follows:

1. *To recruit and retain high-value faculty and staff.*
2. *To provide model excellence education to our students.*
3. *To align UoH curricula and research with regional and national needs.*
4. *To build and reinforce an image of corporate culture which is indicated in the vision of UoH.*
5. *To focus and strengthen the partnership between the University, the "High Commission for the Development of the Ha'il Region" and the community (UoH, 2011).*

2.3.4.2 The college of education at UoH:

As mentioned above, UoH includes the College of Education, which awards a bachelor's degree in education. The College of Education has various departments, namely; educational technology, Islamic literacy, preschool, curriculum and teaching methods, psychology, special educational needs, education and home economics. All scholars, after the preparatory year and in the subsequent seven semesters in diverse majors, at the College of Education have to study ICT modules administered by the Educational Technology Department. This Department provides six modules: Education and Communication Technologies (ECT), Producing and Using Instructional Means, Aural Means for Special Education, Educational TV Programs for Children,

Education Technologies and Means (1) and Education Technologies and Means (2). The principal objectives of these modules are for students to be able to identify, classify and use all types of educational means as well as design and produce educational resources.

This study focused on the use of social media in the ECT module. Teachers on this course use social media as a tool to facilitate teacher-student and student-student communication. Social networks are used in this module for several reasons. First, this module has a subject focusing on various kinds of scholarly communication, and as a result, the idea of using social media was adopted by teachers as a robust application of what students learn. Second, most of the teachers on this course have recently graduated from universities in Western countries and have previous experience of using social media in education, and thus, they aim to transfer their skills through their teaching and fulfil students' aspirations to integrate modern technology, such as social media, in their learning. Finally, the course includes some activities that need to be continued by the students, so they use social media as a platform to keep their interaction. This module is described below to provide brief information on its topics and objectives.

2.3.4.3 Education and communication technologies module

This course contains several topics. Students first study the historical rise of the teaching/learning process, the historical development of educational technology from the audio-visual aids notion to the systematic method and the relationship between instructional means as well as educational technology. Moreover, students are taught communication theory concerning the concept, importance, elements, conditions of success and advanced communication skills.

Furthermore, students are taught the different types of instructional means (for example, audio, visual, audio-visual aids) and activities (for example, trips, visits, theatre) and their advantages as well as limitations. Also, they are taught instructional design plus its applications in the classification, selection as well as the use of instructional aids according to the systems approach. Finally, students are taught how to form behavioural goals technologically to achieve the objectives of teaching.

The overall goal of this module is to familiarizing students with the principles as well as the applications of education and communication technology in the teaching/learning process. For example, by the end of the semester, students are expected to be able to discuss the historical development of the teaching and learning process. They are also expected to explain the communication process as well as its importance in the light of human communication in life and educational process. Moreover, they are also expected to explain the concept of the systems approach and its relation to the idea of educational design and educational technology and apply the systems method in designing and producing an educational resource.

2.4 National Projects for ICT in Saudi Arabia

As a result of the government's recognition of the importance of integrating Information and Communication Technology (ICT) in education, and to meet the aspirations of the new generation, the Ministry of Education has launched several national projects to improve and develop the higher education system. These projects, for example, include the National Center for e-Learning and Distance Learning (NCeL), the King Abdullah Bin Abdulaziz Public Education Development

Project (Tatweer) as well as the Future Plan for Higher Education in the Kingdom of Saudi Arabia (Afaq).

2.4.1 The national center for e-Learning and Distance Learning (NCeL)

Due to the diversity of teaching methods and the need to keep the pace of vigorous development of technologies around the world, the Saudi government has worked to establish the National Center for e-Learning and Distance Learning (NCeL) to invest in technology and developing conventional education in order to form an integrated knowledge society. The NCeL was established under the umbrella of the Ministry of Higher Education (currently the Ministry of Education) with the aim of developing an integrated educational system based on modern technology in the field of e-learning and distance education in the Kingdom of Saudi Arabia. As explained on its website, NCeL provides a centre of expertise and national reference in this area. To achieve this ambition, the NCeL seeks to exploit its “potential to support excellence in learning and teaching through the optimal employment of IT and other modern systems, in a way that enhances communication and interaction in order to achieve national goals” (NCeL, 2017).

The NCeL aims to accomplish 10 major objectives, as follows.

1. The promotion of e-Learning and distance education applications in compliance with quality standards.
2. Raising recognition of proper e-Learning culture plus understanding.
3. Quality assurance of projects/programs for e-Learning as well as distance education.
4. Support for research in the fields of e-Learning and distance education.
5. The formulation of national quality standards for the design, production, and dissemination of e-learning practices.

6. The provision of consultancies to other partners relevant to NCeL's areas of specialization.
7. The launch of national e-Learning enterprises.
8. Encouragement and coordination of unique projects in e-Learning as well as distance education.
9. The organization of meetings, conferences, and workshops that contribute to the growth of e-Learning as well as distance education.
10. International cooperation with comparable global organizations and bodies.

(NCeL, 2017) Based on these objectives, the NCeL renders several services: training, digital content, technical and advisory. First, the NCeL offers many training courses in the field of e-learning and distance education, developed and provided by a selection of local as well as international experts, based on the universities' needs. Second, the digital content services rendered by the NCeL aim at setting the standards required for any digital product, from the design to the production stage, to attain electronics courses suitable for universities' needs. Third, one of the most valuable services offered by the NCeL is technical services, providing technical solutions such as learning management systems (LMS), virtual classroom systems, and professional support services to facilitate e-learning and distance learning.

2.4.2 The King Abdullah Bin Abdulaziz Public Education Development Project (Tatweer)

The King Abdullah Bin Abdulaziz Public Education Development Project (Tatweer) was launched in 2008. This is a national drive aimed at developing the educational system, such as improving educational curricula and the professional development of teachers, as well as providing modern techniques in schools,

amongst others. (Alblaihed, 2016, Tatweer, 2017). The project has six objectives, as follows:

1. *To develop students' skills by employing and using information technology in education, and thereby effectively preparing students for the future.*
2. *To advance teachers' potential by utilizing information technology in all instructional activities.*
3. *To give an information-rich environment, scientific content, and direct educational sources for students/teachers.*
4. *To enhance the consequence of the educational process by graduating exceptional future generations of students who have mastered the use of information technology.*
5. *To partake in the creation of a nucleus for an advanced information technology industry in the Kingdom.*
6. *To create full awareness of the benefits of employing information technology in education and distributing knowledge of information technology across the social divides.*

(Tatweer, 2012, as cited in Al Ibrahim, 2014, p. 39)

2.4.3 The future for higher education in the Kingdom of Saudi Arabia

The Ministry of Education, as mentioned earlier, continues to implement projects and plans to develop higher education, including The Future Plan for Higher Education in the Kingdom of Saudi Arabia (afaaq, 2014) in cooperation with the Research Institute at King Fahd University of Petroleum and Minerals (KFUPM). This project aims to develop university education over a period of 25 years by building a knowledge society in order to transform the Kingdom's economy from

a country that relies on natural resources to a knowledge-based economy. In order to achieve the objectives of this project, six operational programs have been developed. These include providing a high-speed learning network, developing e-learning and distance learning, developing information systems in university education, upgrading the infrastructure, providing digital knowledge content, and establishing virtual universities.

2.5 Summary of the Chapter

This chapter provides a general background of the use of the Internet and Web 2.0 technologies in Saudi Arabia. Some of the information provided included the geographical and social information plus the rates regarding the use of the Internet in Saudi Arabia. Then a quick review of the national projects for integrating the ICT technological application in the field of education was provided by exploring NCel and Tatweer. In the following chapter, a literature review will be provided for the sake of clarifying the objectives of this research as well as conducting them in a way to account for the inquiring process that will follow.

3 CHAPTER THREE: LITERATURE REVIEW

3.1 Introduction

This chapter discusses the relevant literature of this study and is divided into two main sections: ICT in education and the study's theoretical framework. In the first section, in addition to presenting relevant definitions, the link between Web 2.0 and digital learning in higher education has been discussed, the role of teachers and web 2.0 in higher education, the students' role and web 2.0 in higher education and teachers' perspectives for using social media in higher education. I also discuss technical affordances of social media in education, pedagogical affordances of educational contexts, technical affordances of Internet-based applications, affordance of using web 2,0 in learning, in addition to the use of social platforms in learning process.

At the end of this section the gap in the literature has been identified and examined in order to provide a better understanding of the Saudi Arabian students and teachers' perception of the pedagogical affordances at the University of Ha'il. The social media platforms investigated in this study and the pedagogical affordances are: Twitter. Facebook and WhatsApp. The participants in this study might perceive different affordances for each tool based on its own functions and actual use. Thus, the context of using social media has been examined in order to obtain a deeper understanding of this issue in light of the above.

In the second section of this chapter, the theoretical framework of the study has been presented, namely the socio-cultural theory as well as the theory of affordance learning, and in this context, the role of social media has been examined. Other concepts such as connectivity and collaborative learning are

revealed. The chapter also analyses how it might help in understanding the topic under investigation, ICT and Education. In this chapter, I review the relevant literature about the use of technology and the changing role for students' and teachers' perceptions of higher education.

3.2 What is ICT?

The technological revolution has brought many commitments to communities because of the huge accomplishments in the field of ICT. The ease and speed of communication, participation, sharing and access to information, sources and data have contributed to blurring the boundaries between societies and to the emergence of the concept of globalization, which has made the world a miniature district because of economic and cultural integration in many societies.

The term *Information and communication Technology* (ICT) has been defined as "technologies that facilitate, by electronic means, the acquisition, storage, processing, transmission, and disseminating of information in all forms including phoneme, text, informations, schematic graphics and video" (Michiels & Van Crowder, 2001, as cited in Cavas, Cavas, Karaoglan & Kisla, 2009, p.2). This definition generally focuses on the technical capabilities offered by ICT services, which include the integration of technical affordance with information to facilitate knowledge generation and interaction. In addition, the community plays an active role in terms of interacting with others to produce and disseminate knowledge (Cavas et al., 2009). With the advent of the Internet, a new communication and exchanging information techniques between users has emerged, initially based on e-mails and participation in forums. However, now interactions predominantly take place either synchronously or asynchronously using services or apps provided by computers or smart devices. This new trend has created a cyber-

culture that urgently requires competencies and skills related to the use of computer technology in the classroom. Desjardins, Lacasse, and Bélair (2001) point to four competencies, namely, the competencies of a technical, informational, social and an epistemological order.

Many types of communication and computer hardware and software are used in education to promote and facilitate the process of effective teaching; according to Waycott, Bennett, Kennedy, Dalgarno, and Gray (2010), “the use of ICT in educational accomplishment should not be appreciated as a mean of transferring academic resources and relocation however as a mean of sharing data, sharing and creating knowledge”. Therefore, communities, particularly in developed countries, have made great efforts in developing education (Pelgrum, 2001) to obtain desirable educational outcomes “by emphasizing competencies such as critical thinking, decision-making, handling of numerous cases, collaborating as a bunch member, ready to communicate effectively "(Anderson & Weert, 2002, as cited in Cavas et al., 2009, p. 2). This is guided by the constructivist approach and the agreement of the cited text with this study in relation to Vygotsky and social constructivism (Vygotsky, 1978). The emphasis has shifted from teacher-centred education as the primary – indeed only – source of knowledge to student-centred learning under the ICT umbrella. Over the last few years, institutions have encouraged teachers to use ICT in education by acquiring the skills and knowledge needed to use ICT in their instruction (Cavas et al., 2009). It brightens up that the present belief about the value of ICT in education “is not only the basis of the information society, but also an important catalyst and tool for inducing educational reforms that change our students into productive knowledge workers” (Pelgrum, 2001, p. 163).

I agree with this definition because it includes all forms of technological communications that are used in universities including Twitter Facebook and WhatsApp that need to be focalized on in this study. It was also discussed that the web applications in this definition cover all information resources and communication applications that can be used in higher education lectures such as software applications and multimedia, which might be used by students and teachers in the lectures such as WhatsApp and Facebook. This definition examines technology from an educational point of view and focuses on the perspective of students' and teachers' use of technology. Thus, when referring to the use of ICT in education in this study, it means the use of these forms of technology in the university lecture to enhance and support teaching and learning processes.

3.3 ICT Affordances

There is a great significance of using ICT in the lectures of higher education institutions (e.g. social media). It is easier and very compelling to access information, provide information and communicate via social media. Teachers and students connect with one another and can benefit from their potential for teaching and learning. However, what are the affordances of ICT that have attracted educators to adopt and apply it in the teaching and learning process?

Worldwide studies reported the importance of using ICT. For instance, Conole and Dyke (2004) proposed a taxonomy of affordances as follows: accessibility, speed of change, diversity, communication and collaboration, reflection, multimodal and non-linear, risk, fragility and uncertainty, immediacy, monopolization and surveillance. Each of these is addressed in greater detail in turn.

3.3.1 Accessibility

The effortless access to a large amount of information provided by ICT has made its integration even more difficult in the educational field. Filtering and validating the massive amount of information has become one of the necessary required skills by graduates (Conole & Dyke, 2004). Thus, the issue is not just to access information, but the most important thing now is to know how to use what is available. The interest, obviously, has shifted from “searching” to “selecting” (Conole & Dyke, 2004, p.116).

3.3.2 Speed of change

A distinguishing technology feature at the present time is the rate of growth in the information or events that can be decrypted immediately. The rapid change in information may be at the expense of its quality and reliability, which could affect “reflective and critical thought”. In addition, this issue has been foreshadowed in the use of technology in the educational setting. Therefore, it is of central significance to determine how it can be used to guide and qualify students to be more selective considering the rapid changes in the information available.

3.3.3 Diversity

ICT offers opportunities for exposure to others' experiences, for example, through the web. People may not have these diverse experiences previously and therefore, this can be considered as a major source of new learning experiences.

3.3.4 Communication and collaboration

These two aspects are another ICT affordance offering the opportunity to learn from and with others. In addition, the new techniques are also offering new techniques of communication and interaction between people. The impact of ICT

on communities formed online is obvious, with people using new means to communicate and exchange information.

3.3.5 Reflection

Unlike face-to-face interaction, asynchronous technology gives users enough time to reflect and critique while engaging in discussions. Previous online conversations will be saved, so asynchronous technology offers an opportunity for individuals to modify or build on archived content, which in turn develops the quality of reflection. Asynchronous technology, therefore, has been used to support the educational process in all its aspects, such as teaching, learning, research and discussion. However, what is important now is to identify how to use asynchronous technology effectively to achieve the purpose of adding it in educational settings.

3.3.6 Multimodal and non-linear

In addition to the previous affordances of ICT, the non-linearity affordance of the web presents a new approach of learning based on individualized strategies and pathways. Non-linear learning, supported by electronic resources, could enrich students learning if it is more characteristic of experiential learning (Dewey, 1933, as cited in Conole & Dyke, 2004, p.119).

3.3.7 Immediacy

The new technologies are characterized by the speed in exchange of information, which has raised the level of others' expectations regarding instant response. This, in turn, has led to a remarkable change in the procedure of dealing with requests, which previously took a longer time to deal with.

3.3.8 Surveillance

This concern is one of the technical possibilities that allows others to access more person-specific information. Conole and Dyke (2004) have argued that there are several concerns regarding surveillance, for example, on the part of service providers, smart devices and the teacher's ability to monitor student activities more than before.

In most reputable universities, faculties have successfully integrated social media for the enhancement of their students' and teachers' capabilities and skills, including admissions, campus life, alumni relations, and in the classroom. Conole and Dyke (2004) argue that technologies can be used effectively in education when there is a clear articulation of their affordances. In addition, perceptions of the affordances of ICT are important in the educational environment as they provide an idea of how to take advantage of such technologies to support teaching and learning. Authors believe that a better understanding of the nature and properties of technologies will lead to a more systematic application of the use of ICT for learning and teaching" (Conole & Dyke, 2004, p.114). Furthermore, Salomon (1993, as cited in Conole & Dyke, 2004) asserts that users can recognize artefacts' affordances and attain the advantages if appropriately designed. Conole and Dyke (2004) go further and add up to the design of artefacts, particularly in the application of ICT, may also affect their use, either negatively or positively.

As mentioned earlier when referring to the use of ICT in education, the use of Web 2.0 in the Universities' lecture is to enhance and support teaching and learning processes. Therefore, it is necessary to understand what is meant by Web 2.0 and the main differences between Web 2.0 and Web 1.0. alongside with

the latter, it is also recommended to understand the characteristics of Web 2.0 users, particularly in terms of the nature of their use and participation in higher education.

3.4 Simple Static Web 1.0 and User Generated Content Web 2.0

Web 1.0 elements were also favoured, such as “podcasting lecture materials or the use of PowerPoint to supplement instruction” (Vance, 2012, p. 490). More curiously, students still want teachers to maintain their primary role in the educational process, especially in the online provision of educational content. However, Vance (2012) study failed to identify which Web 2.0 tools students prefer.

Web.2.0 was first formulated by O’Reilly Media in a conference brainstorming session among O’Reilly and Media Live International in 2004 (O’Reilly, 2006, as cited in Lim & Palacios-Marques, 2011). Many studies have tried to define Web 2.0, but there is not yet a standard definition because, compared to Web 1.0, it is a different correspondence in the innovative use of web technologies rather than a specific technology or service. Previous studies, as represented in Table 3.1. (Lim & Palacios-Marques, 2011), have defined Web 2.0 in different ways, rendering their unique perspectives. Lim and Palacios-Marques (2011) focused on the shared ideas between technologies and defined Web 2.0 as ‘‘a new philosophy that emphasizes collective intelligence, active participation and collaboration’’ (p. 124). McLoughlin and Lee (2007, p. 665) defined Web 2.0:

> *…as a second generation, or more personalised, communicative form of the World Wide Web that emphasises active participation, connectivity, collaboration and sharing of knowledge and ideas among users. Web 2.0 is also referred to as the “Read-Write Web” (Price, 2006; Richardson, 2006), as it goes beyond the provision of viewable/downloadable content to*

enabling members of the general public to actively contribute and shape the content.

Table 3.1 shows the fundamental differences between Web 1.0 and Web 2.0.

Table 3.1: Definition of Web 2.0.

Authors	Definition of Web 2.0
Kim et al, (2018)	Participation, rich user experience, social networking, semantics, interactivity
Mrkwicka et al. (2009)	User participation, collective intelligence, information sharing and creation
Castelluccio (2008)	Collaboration, dependence on user-created content.
Cooke and Buckley (2008)	Individual ability to publish, share, and collaborate,
Anderson (2007)	Individual production, user generated contents, harnessing power of the crowd, data on epic scale, architecture of participation, network effect, openness
Brynjolfsson and McAfee (2007) **Hoegg et al. (2006)**	Collaboration, innovation, connectivity, collective intelligence, collaboration, community service

Source: Adapted from Lim and Palacios-Marques (2011, p. 124)

Web 2.0 is a term used in conjunction with digital learning 2.0 in relation to CSCL systems. Web 2.0 from the educational perspective places an emphasis on social learning through the use of social network such as podcasts (e.g. iTunes), blogs (e.g. Blogger, Wordpress), wikis (e.g. Wikipedia), social bookmarking tools (e.g. del.icio.us), social networking tools (e.g. Facebook, Ning), social media sharing tools (e.g. Flickr, YouTube), Internet telephony (Skype), collaborative writing tools (e.g. Google docs), virtual 3D community platforms (e.g. Second Life) and social library tools (e.g. LibraryThing) (Hartshorne & Ajjan, 2009; Yuen, Yaoyuneyong & Yuen, 2011).

Users' roles in Web 2.0 have changed in terms of dealing with online content. Nowadays, users have become more active in generating and modifying online content (McLoughlin and Lee, 2007). In the educational context, Hartshorne and

Ajjan (2009, p.185), reviewing the literature on the characteristics of Web 2.0, argued that:

> *Unlike many traditional web-based applications, Web 2.0 applications depend on user contributions and interactions as driving forces, providing settings and opportunities for both social connectivity and collaborative environments, each considered by many constructivist theorists as important elements of effective teaching and learning environments.*

In addition, the use of Web 2.0 tools, such as wikis, enhances knowledge sharing and creation in the interaction between students and teachers based on collaborative principles (Daspit & D'Souza, 2012).

3.4.1 The role of teachers and web 2.0 in higher education

Most applications used in higher education programs depend on delivering data on Web 2.0. However, the use of Web 2.0 to construct and exchange ideas and information represents both challenges and benefits for higher education (Hartshorne & Ajjan, 2009, p.184). In Vance's (2012) study on student instructional preferences concerning Web 2.0, it was found that most students prefer to use social networks for activities that require social interaction. The teacher's role, is important in assisting students and complementary to education, drawing on electronic tools and resources to teach and communicate with students. Students, in contrast, are responsible for their own learning using web 2.0 / ICT in the university lecture, which has been widely discussed. According to Cavas et al. (2009, p. 2),

> *Roblyer and Edwards (2000) suggested that there are five important reasons for teachers to use technology in education: (1) motivation, (2) distinctive instructional abilities, (3) higher productivity of teachers, (4) essential skills for the Information Age, and (5) support for new teaching techniques (cited in, Samak, 2006). In order to use of technology in the classroom effectively, teachers' attitude toward technology should be*

> *positive and they should be trained in using the modern technologies in the field of education. Chin and Hortin (1994) stated that the teacher clearly must act as the "change agent" in the relationship between technology and the student.*

The important reasons for teachers to use technology in education are motivation, distinctive instructional abilities, higher productivity of teachers, essential skills for the information age, and support for new teaching techniques. However, the integration of web.20/ ICT within higher education (e.g. social networks) may face some challenges or resistance by the educational community. One of the key factors associated with the integration of information technology in higher education is the management of change, which should begin with a plan for integration that must be stringent to last several years. This is not surprising, as conventional education has followed a certain approach for decades, but the new approach entails knowledge transformation and different output. One of the persuasive arguments of those who reject the use of technologies in higher education is that making a judgment about the educational content and the method of knowledge transformation is easier in conventional education. In contrary to the latter, digital content and the use of technology in teaching or learning are more difficult because time is needed to judge its benefits. This position is true to a large extent, but delaying the integration of technology in education will widen the gap between the teacher and the students. Students have skills in the field of information technology that teachers or some peers may not know. The integration of ICT in education can take a simple form, such as the use of presentation means in classrooms (e.g. computers, CDs, presenting data, interactive whiteboards) or a more complex form, such as virtual reality, video conferencing, or social media. The potential for the integration of ICT in education

depends on the affordances provided, such as the capacity, availability and accessibility of information sources (Suleiman, 2010).

3.4.2 Digital natives & digital literacy

The emergence of social networks has overshadowed the educational systems and students' roles. From my experience as a lecturer at the University of Ha'il and as a member of the Saudi community, I have seen many students now using social media for communication, accessing content, researching content, information, data and communication. They have experience in using different Web 2.0 tools in their daily lives. Web 2.0 applications have a significant potential, allowing "digital native" students (Yuen et al., 2011) to bridge the gap between their use of social networks and the reality of current education. Therefore, I think students' role has changed in higher education through using web 2.0 and its applications.

Prensky (2001) said in his famous paper untitled "digital natives, digital immigrants part 1", "by calling then digital immigrants" he stated that their students have changed radically. They are in a different age where technology has overcome the age of books.

The capability of digital natives to use different technical means such as smartphones and social media networks implies that they have a higher level of digital literacy (Ng, 2012; Tai, Ting & Tseng, 2018). The new generation technology, such as computers and smartphones, is used on a daily basis to get information and various services such as downloading music, internet connection, and GPS (Ng, 2012).

According to Yuen et al., (2011) The "digital native generation" is a new expression used to identify potential students once networking technologies

began to emerge, which enables interaction between members through multiple applications (e.g. Web 2.0 technologies as the latest tools). These tools provide new virtual communities that did not exist in the past. The characteristics of these communities are determined by the nature of participants and their participation. The critical factor in these communities is the interaction among participants. In addition, they share knowledge with each other as part of their personal historical characteristic. According to Simões and Gouveia, (2008, p. 8):

> *Students belonging to the Net Generation (also called Millennials, or more controversially Generation Y), have been exposed to digital technology in virtually all facets of their lives. This had, and still has, a profound impact in their individual personality, in the way they relate with other people, and in the way, they see the world. They also show some differentiating psychological features as a group.".*

As mentioned by Tapscott (1997), specifically, the *Net Generation* tends to exhibit many characteristics which are different from the previous students. They demonstrate well-developed multitasking capabilities, as well as an active preference for knowledge construction, rather than following instructional pedagogical designs. These students have little tolerance for delays. Technology has taught them to expect immediacy and easiness in interactive settings, where they are not just viewers, but also actors (as cited in Simões & Gouveia, 2008, p. 8). Hartshorne & Ajjan (2009, p. 194) emphasise that a successful learning environment promotes collaboration between students and faculty, allows students to generate and exchange new information and facilitates the connection of various pieces of information. This has led to a change in the students' role from being passive learners to active learners. Web 2.0, in this regard, can facilitate this aspect of the learning environment.

The use of the term "digital native" is a problem as mentioned in some studies. Brown & Czerniewicz (2010), for example, pointed out that this term may contain some concepts that need to be re-examined. Helsper, in addition, “warns that continued use of terminology such as ‘digital native’, as well as the ideas associated with it, could have unexpected consequences for young people in terms of how they do (or do not) manage negative and risky online situations” (Helsper 2008b, cited in Brown & Czerniewicz, 2010, p.3)

However, there are multiple critical issues that may occur in the future, such as whether we can assume from the definition of a new generation– those that have grown up in the era of social media – that graduates can use this technology in academic settings or whether their existing social media experience helps them to learn. I argue that having skills in the use of technical tools will not necessarily be accompanied by success in the educational field. This is because introducing educational technology, such as social media, in the classroom is not an extra option but it is important. Therefore, the optimal application of Web 2.0 tools (e.g. Facebook, Twitter, WhatsApp) demands the realization of their technical and pedagogical affordances and knowing how to employ them to take full advantage of their benefits.

Waycott et al., (2010) conducted a study to identify the ‘‘digital divide” between ‘‘digital native” students and their ‘‘digital immigrant” teachers in higher education. The results of the study showed no differences between the two groups because of exposure to various technologies, as both students and teachers have benefited from different technologies in their lives, such as using smartphones, the internet, emails. In addition, there are commonalities in terms of the purposes and contexts of using technologies, such as communicating with family and

friends. They also noted that teachers and students alike showed differences between their use of technologies in work/education. While one group of students and teachers wanted to separate the work/education context from their personal lives, the other group adopted strategies to blur the boundaries between the use of technologies for work/ learning and their personal lives.

However, as noted by Waycott et al. (2010), this may be a false premise on which to base the use of such tools in the educational environment because the continued use of technological tools does not reflect their benefits in education.

In the light of the foregoing, I can say that the digital native and digital illiteracy includes concepts that may not necessarily be true as the elderly now may have the ability to handle technologies easily. Therefore, to say that there is a gap in digital illiteracy among generations can be answered if competencies and training are available to all.

3.5 Teachers' Perspectives on Using Social Media in Higher Education

Although many factors have effects on teachers' attitudes and behaviours, they handle changes in the academic context as a result of the technical uprising and adapt their responsibilities as they are no longer the primary source of knowledge. As well as meeting the connectivity standards of potential students and trying to meet expanding expectations and requirements, such as the use of computer model, simulation, coordination and constructive criticism techniques and their assumption in the involvement of social media in higher education. Garrison and Kanuka (2004, p. 95), recently discovered that "Higher education leaders are questioned to place their organizations to fulfill potential future graduates' interconnection criteria and satisfy growing perceptions and higher desires quality

learning experiences and outcomes". It is very important that faculty members accommodate changes in the educational context because of the technical revolution and adapt their roles as they are no longer the only source of knowledge. In this regard, the impact of technology on the role of the academic requires "faculty members to think about themselves very differently as instructors, recognising the changes in the educational paradigm, engage in new kinds of activities, and reconsider the meaning of being an expert" (Conceicao, 2006, p. 44). West and Graham (2005, as quoted in Graham, 2006) figured out too that "There was a significant number of academic staff experimenting with revolutionary technology-mediated teaching strategies (such as the use of control system tools, simulation, networking and feedback) that enhance the methods how students learn" (p. 14). However, Schaber, Wilcox, Whiteside, Marsh, and Brooks (2010) have argued that transformation is complex and needs more consideration in terms of face-to-face and online approaches, stating:

> *Many higher education institutions are viewing information technology centers as key to successful innovations in online formats. Experts in teaching and learning with educational technologies are needed to engage instructors in new pedagogies, online course design processes, the proper use and selection of tools, and evaluation of course effectiveness. Good online learning is not attained by "just adding technology"; thoughtful course design and tool selection and employment are paramount for effective learning experiences. A common view in education is that a technology tool for teaching is either "good or bad." It's not the technology but the design and application of the learning interaction that it facilitates that contributes to an effective or ineffective learning experience. (p. 16)*

3.6 Affordance

In the past, there was no term to describe the relationship between the environment and the object (a person or animal). This relationship can now be described as affordance, a term first used by the perceptual psychologist James

J. Gibson (1977, 1979). In his book *The Ecological Approach to Visual Perception*, he defined the affordances of the environment as:

> *All "action possibilities" latent in the environment, objectively measurable and independent of the individual's ability to recognize them, but always in relation to the actor and therefore dependent on their capabilities. (Gibson, 1977, pp. 67–82)*

This definition includes several concepts that perhaps need more clarification for the reader. For example, since a giraffe has a long neck (*capabilities*), it can reach (*action possibilities*) the leaves provided by a tall tree (*affordance*), but a sheep cannot do so because of its short neck (*capabilities*). As another example, an adult (*capabilities*) can walk (*action possibilities*) up the steps of a staircase that entail a climb (*affordance*), but an infant cannot crawl them up. These examples provided by Conole (2013) explain the relation between individuals and their capabilities, linked to the concept of affordances. "This includes the individual's experience, values, beliefs, skills and perceptions. A button could therefore never be willing to push if an individual doesn't have a cultural environment or knowledge of the concept of knobs or associated artefacts and what they are for" (Conole, 2013, p. 86).

Gibson argues that affordance constitutes: *"at it offers the animal, what it provides or furnishes, either for good or ill" (1979, p.127).* Gibson's definition seems to be describing the capabilities of an observer (an animal or individual) to use (action possibility) a resource that the environment offers, even if this affordance is not visible or known. According to Gibson, the action possibility is "independent of the individual's ability to perceive this possibility" (McGrenere & Ho, 2000, p. 1). Like Gibson's definition of affordance, McLoughlin and Lee (2007) state that:

> *…an affordance is a "can do" statement that does not have to be predefined by a functionality and refers to any application that*

> *enables a user to undertake tasks in their environment, whether known or unknown to him/her. Blogging, for obvious reasons, usually includes writing and formatting posts that are not affordances, but enable sharing and interaction of ideas. (p. 666)*

Many researchers demonstrated fundamental properties of affordance. For example, McGrenere and Ho (2000, p. 1) presented three fundamental properties of Gibson's notion of affordance: (1) it has an affordance exists relative to the action capabilities of an actor, (2) the existence of an affordance is independent of the actor's ability to perceive it and (3) an affordance does not change as the needs and goals of the actor change. However, Norman (1999), taking a rather different view, states that affordance:

> *…Makes reference to the presumed and current features of a thing, primarily those functional attributes that decide how it would be used. A chair affords ("is for") support and, therefore, affords sitting. (p. 9)*

Furthermore, Norman (1999) argues that:

> *"Affordances specify the range of possible activities, but affordances are of little use if they are not visible to the users. Hence, the art of the designer is to ensure that the desired, relevant actions. The designer's art is therefore implemented to ensure that the intended relevant actions could be easily and quickly viewed "(p. 41).*

He differentiates between real affordances and perceived affordances and emphasizes the importance of considering "perceived affordances" when referring to affordance. Norman suggests that "there are three dimensions that should be taken under consideration in order to comprehend the way a device is used by someone, i.e. conceptual models, constraints, and perceived affordances" (Stefanou, 2013, p.3 8).

Table 3.2 below presented a comparison of Gibson's and Norman's definitions affordance, as I saw both Gibson's and Norman's definitions have been criticized

by McGrenere and Ho (2000), arguing that Norman focuses on the *usability* of an object more than *usefulness* and stating that:

> *The usefulness of a design is determined by what the design affords (that is, the possibilities for action in the design) and whether these affordances match the goals of the user and allow the necessary work to be accomplished. (p. 6)*

Table 3.2: Comparison of affordances as defined by Gibson and Norman

Gibson's Affordances • Offerings or action possibilities in the environment in relation to the action capabilities of an actor • Independent of the actor's experience, knowledge, culture, or ability to perceive • Existence is binary – an affordance exists, or it does not exist
Norman's Affordances • Perceived properties that may or may not actually exist • Suggestions or clues as to how to use the properties • Can be dependent on the experience, knowledge, or culture of the actor • Can make an action difficult or easy

Source: McGrenere **and** Ho (2000, p. 3)

3.6.1 Technical affordances of social media in education

In social media, technical affordance "refers to the usability of the environment for learning and task accomplishment" (Quek & Wang, 2014, p. 101). To my knowledge, few studies have discussed the technical affordances of social media. However, one of these studies pointed that "simple operation, low cost, availability, and immediacy" were the technical advantages that most encouraged students to use WhatsApp to communicate with other students and teachers (Bouhnik & Deshen, 2014, p.117).

The simplicity and ease of use is one of the substantial features that has contributed to the widespread use of social networking among people all around the world. Users may perceive this affordance through the ability to deal with the buttons on the web or app interface. WhatsApp, for example, offers a simple interface design that includes a friends list and a screen to view messages exchanged between the sender/ receiver, a place to write text messages and to

save images, record sounds or videos. Twitter, furthermore, has a simple interface design, but with more buttons compared with WhatsApp, adding to the following and followers lists, home, explore, notifications, messages, me, tweets, media, likes and profile buttons. The users send a tweet by pressing the tweet button and writing a message of no more than 140 characters (280 for some trial users). As for Facebook, the design is more advanced, with the interface including many options, but sending and receiving messages do not require great skills. The simplicity of WhatsApp has been noticed by Bouhnik and Deshen (2014) and demonstrated that it is one of the technical advantages that has contributed to its widespread use among students and teachers. Tur & Marn (2015) found that the ease of use of Twitter plays a crucial role in education. Furthermore, Wang, Woo, and Quek (2012a) have found that Facebook has technical affordances including ease of use and speedy access.

The low cost is one more feature that contributes to the widespread use of social media in social and educational settings. The application of social media only requires an internet connection, which is low cost compared with traditional communication (e.g. telephone calls, SMS messages). Furthermore, messages exchanged between users are free, motivating them to use social media frequently (Bouhnik & Deshen, 2014).

Moreover, the ease of use is a technical affordance. In particular relation to its use in education, Birnholtz, Hancock, and Retelny (2013) found that “Twitter provided an infrastructure for sending, receiving and aggregating short messages that were easy for the instructors and [teaching assistants] to read quickly and incorporate into lecture” (p. 1). Similarly, Facebook is used because it is easy, and students are familiar with it (Racthman & Firpo, 2011; Wang et al., 2012a).

Social media differ in terms of the number of words included in each post. Brevity, in this regard, is a technical affordance of Twitter, in which the 140-character limitation on tweets is seen as significant feature that allows users to send and receive short messages related to their common interests (Zhao & Rosson, 2009). In contrast, the limitation on the length of tweets prevents students from expressing themselves properly (Lin, Hoffman, & Borengasser, 2013).

3.6.2 Pedagogical affordances of social media

Educators all over the world confirm that using social media in educational contexts can achieve desired learning goals, by connecting with experts, sharing content, and supporting students in accomplishing tasks. Many researchers argue “that the characteristics of technology and social media enhanced learning environments that determine whether and how learning activities can be implemented in a given educational setting for a target group of audience” (Wang & Qiyun, 2014, p. 101). They demonstrate the technical affordances of social media that teachers and learners consider and use to achieve desired academic goals. Identifying the students’ perceptions of the affordances of a social network, according to Lee, McLoughlin & Chan (2008), is a critical matter. It promotes teachers to empower students with freedom and autonomy in choosing tools that will serve their progress in learning. They conclude that student-centred learning can be achieved if social media are used with appropriate pedagogy. According to Hassan and Landani (2015), the pedagogical affordances of social networking promote student engagement in education.

Correspondingly, it is agreed that higher education institutions cannnot remain free of all these shifting technological advancements and lag behind such developments, which might give noble understanding into the academic context,

and that learners are already becoming prominently more active in using ICT technologies and social media in particular.

A limited number of studies have highlighted the pedagogical affordances of social media. For example, Lee, McLoughlin & Chan (2008) point out that Web 2.0 and social media offer collaboration, interactivity and socio-experiential learning. Al Ibrahim (2014), furthermore, identifies various pedagogical affordances of social networks, such as reflection, stimulation, content creation, collaboration and online discussion. With respect to Facebook and its affordances for teaching and learning, Wang et al. (2012a) identify various features, namely: sharing ideas and resources, supporting collaborative reflection and enabling monitoring of the learning process. In addition, Facebook also has social affordances such as extending discussion beyond the classroom, fostering interactions between students and students and between students and the teacher, as well as enabling students to compete with peers. It has been noticed that the advantages of social media are both for students and teachers. Social media are not only effective for students learning, but also for their teachers' knowledge of when and how to interact with it. The next sections highlight some pedagogical affordances of educational contexts found in the literature.

3.6.2.1 Content creation

Taking advantage of these technical affordances of social media, such as gathering information, does not require former experience or skill (Hassan & Landani, 2015). The technical affordances of social media include the ability to share different types of sources, for example, multimedia (e.g. images, sound, video), text-based information (e.g. Word files, PowerPoint [PPT] and PDF) and URL links. These features of social media contribute to students' learning in terms

of sharing and constructing knowledge. Facebook, for example, is useful for sharing and constructing knowledge (Racthman & Firpo, 2011). However, not all social media support the posting of multimedia (e.g. video and sound) or text-based files (e.g. Microsoft Word and PDF files), so the use of third-party websites by students or teachers, such as YouTube and Google Docs, is required to overcome this limitation. Wang, Woo, Quek, Yang & Liu (2012b), for example, have found that the use of Facebook neither supports a threaded structure, nor the direct uploading of files. Thus, this may represent a challenge for students in using different tools at the same time in addition to their lesson requirements.

In addition, constructing knowledge on social media through discussion or sharing sources may not be considered as a significant merit from some students' perspectives. On the other hand, information overload may increase the time spent on learning (Jones, Blackey, Fitzgibbon, & Chew, 2010). Thus, I consider the role of teachers crucial in overcoming these issues. Teachers need to advise students to filter information and consider copyright issues by referring to the original sources of information.

3.6.2.2 Connectivity

Social media can help students get reasonably close and better understand each other. Students' profiles, for example, could be considered a gateway for others to know about their personal lives, interests and their current mood. Those little details help students to identify with each other in greater depth, which in turn increases interaction, the exchange of ideas and opinions, construction of knowledge, building of content, provision and receipt of social support and creation and sustaining of a feeling of connectedness. It can be said that the

understanding of this affordance may encourage collaborative work between colleagues (Zhao & Rosson, 2009).

At first, the social presence of individuals in a community of learning plays a major role in maintaining connectivity and the formation of a sense of community. Social presence indicates “the ability of participants in the Community of Inquiry to project their personal characteristics into the community” (Garrison, Anderson & Archer, 2000, p. 89). Based on Garrison et al.’s (2000) definition, social presence is affected by two factors: the community and the ability of a person to project personal characteristics. The ability to project personal characteristics is the result of creating relationships with others and the formation of a sense of community.

In addition, the sense of community is a crucial factor in promoting and carrying out personal interaction and discussion. The students’ sense of community in the virtual community, according to Limniou, Holdcroft, and Holmes (2015, p. 69), is stronger compared with that one in a traditional environment, as they:

- know who the most appropriate person is to assist them;
- share their experience with other members of the community and get informed about others’ views;
- are better supported in overcoming their research difficulties.

Regarding personal communication between students on social media, Dunlap and Lowenthal (2009) believe that the social interaction and connection that take place among students and teachers in social media have an influence on engagement. In addition, they insisted that the learning community inside the classroom is somehow enhanced by interpersonal relationships formed in interaction outside the classroom. Twitter, for example, allows students to gain a

more in-depth acquaintance with fellow students (Lin et al., 2013). In addition, students share on Facebook some information that is unrelated to the course content, such as personal information and photos from various events in their daily life (McCole, Everett, & Rivera, 2014). They argue that Facebook facilitates the connection between students, which in turn affects the formation of a sense of community among them. Thus, the connectivity among students builds strong relationships, particularly when they share the same values and interests (Junco et al., 2011). From the above, it can be raised that there is a relationship between the connectivity of students and faculty inside and outside the classroom and the students' motivation and involvement in discussion.

However, students might prefer to have limited use of social networks for their personal use. For instance, Bouhnik and Deshen (2014) reported that a teacher stated that students are willing to use Facebook, but that the use of Facebook by adults (e.g. family members) also has limited their main activities (Bouhnik & Deshen, 2014). This indicates that students may feel that adding new followers to their friend list on social networks, whether student or teacher, without their choice, may affect their freedom and privacy. One of the supporting studies to this argument indicated that many students were not willing to add teachers on their Facebook friend list (Wang et al., 2012b). likewise, according to Jones et al. (2010), students prefer not to use social networking in education, but interestingly 90% of them well appreciate the importance of educational need for technology. The researchers noted that the contradiction between the students' responses occur because the use of social networking is new in education for them. In general, students in their study used different social networks for social networking purposes and for educational purposes. Thus, they seek a separation between their personal lives represented by their use of social media and their

use in education (Blackey, Fitzgibbon, & Chew, 2010). Furthermore, Twitter for example, may not foster interaction between students and their colleagues and consequently they see it as a less effective tool (Birnholtz et al., 2013).

Moreover, teachers present the same perception regarding engagement with students outside the classroom. For example, Cloete, de Villiers, and Roodt (2009) conducted a study to examine the use of Facebook as an academic tool. They analysed 45 questionnaires completed by lecturers in Information Systems and Computer Science departments. The findings demonstrated that 44.4% of the lecturers did not have accounts on Facebook, but the majority did use it only for social networking purposes would prefer not to interact with learners on Facebook. The reason for this might be that lecturers want to maintain the lecturer–student relationship, wishing to protect the associated level of respect and being sensitive about maintaining their credibility. In this vein, Mazer, Murphy, and Simonds (2007, 2009, as cited in Wang et al., 2012b) caution that teachers who use Facebook in education should be conscious that the information they share with students needs to be accurate, with an emphasis on maintaining their credibility.

To sum up, there are different perceptions of the use of social media in promoting interpersonal, educational communication. However, most findings have identified the effectiveness of communication regarding specific aspects of learning and the achievement of lesson objectives (Manca & Ranieri, 2014).

3.6.2.3 Engagement

Student engagement, or what Astin (1984) called student involvement, “refers to the amount of physical and psychological energy that the student devotes to the academic experience” (p. 518). In the educational setting, “students are thought

to be engaging at the highest level when they are engaging behaviourally, emotionally, and intellectually" (Sharan & Tan, 2008, as cited in Clements, 2015, p. 141). Behavioural engagement is thus related to participation in learning activities, wherein emotional behaviour mainly concerns students "attitudes, values, and interests", while the students' learning goals are considered to represent cognitive behaviour (Clements, 2015). To ensure good practice with regard to student engagement, Chickering and Gamson (1987, as cited in Junco et al., 2011, p.120) suggested seven principles as follows: "(1) student/faculty contact; (2) cooperation among students; (3) active learning; (4) prompt feedback; (5) emphasizing time on task; (6) communicating high expectations; and (7) respecting diversity".

In the last decade, there has been a significant spread of the use of social media in communities among all segments of society for personal purposes to support communication between individuals and make friends, access news and information and share personal information. Clearly, this expansion in the use of social media has moved into the educational environment, where there have been many attempts to use it to enhance students' engagement in their learning.

Astin's (1984) definition shows that students are Intentionally engaged in their personal learning activities, non-educational activities, such as student organizations, and interaction with teachers or other students. However, students may present different levels of engagement, in a wide variety of subjects, at different times and in different contexts. With particular respect to social media and their use in education, student engagement may occur in the form of online discussion that might be performed to complete their academic work or interaction with their teacher through an app or a website. In addition, students'

engagement in social media can be measured quantitatively, for example by evaluating how many hours they spend reviewing a website or an app, or qualitatively, by examining how they perform certain tasks, share resources, read other students' posts and participate in discussions. In this regard, it has been argued that the quantity and quality of students' engagement in educational programmes determine the extent of their learning and personal development. Therefore, it is crucial to support students' engagement when designing policies and practices in educational institutions in order to ensure successful outcomes (Astin, 1984). This is why students' engagement in social media in education has been the subject of a number of studies.

Engagement in learning is considered one of the conventional goals of learning. However, with the emergence of social networks, students' roles have changed and they have become more responsible for their engagement at two levels: personal and collective. For example, some social networks attract students to use them for educational purposes besides their personal use (Hamid, Kurnia, Waycott, & Chang, 2011). With respect to the use of Facebook in educational settings, it has been argued that this social medium contributes to enhancing students' independent engagement by opening the door wide to constructive discussions, interacting in groups with other students and connecting in real time with teachers for frequently asked questions to a greater extent compared to emails and the Desire2Learn platform (Clements, 2015). In addition, students have asserted that online social media help them engage with content and comprehend the course topic, specifically in clarifying ambiguous information (Hamid, Waycott, Kurnia, & Chan, 2015). Indeed, multitasking on Facebook, such as sharing additional material related to the lesson, may have an impact on the level of comprehension of lecture material, especially if students tend to follow

friends' daily life activities (Clements, 2015). Therefore, using social media, for example Facebook, can promote academic engagement if it takes place under the instructor's guidance (Wise, Skues, & Williams, 2011, as cited in Clements, 2015).

3.6.2.4 Collaborative learning

The importance of using technology in education stems from the offer of an alternative form of interaction that differs from normal face-to-face interaction. In addition, technology-mediated interaction offers the possibility of keeping a record of interactions, which can continuously be developed collaboratively. These records are considered a resource for intersubjective learning (Stahl, Koschmann, & Suthers, 2006).

In addition, cooperative learning has been commonly investigated in machine-related literature to help learning students' outcomes. Koschmann (2002, as cited in Stahl et al., 2006, p. 11) presented a programmatic description of computers supporting collaborative learning (CSCL) in his keynote speech at the CSCL conference in 2002:

> *CSCL is a field of study centrally concerned with meaning and the practices of meaning-making in the context of joint activity, and the ways in which these practices are mediated through designed artifacts. (p. 18)*

Thus, meaning making takes place in a collaborative environment within groups through the use of technology, such as computers or smartphones including programmes or apps, in this study social media, to keep collaborators connected. Suthers (2006) argues that besides the importance of design artefacts that mediate the practices of "*intersubjective meaning-making*", collaborators'

perceptions of technology affordances and the influence of the “notational properties of media” on “the course of collaboration” are of central significance.

Based on Suthers’ (2006) argument, the efficient and effective adoption of social media in educational settings for collaborative learning is influenced by the students’ previous experiences and their perceptions of its technical affordances, formed as a result of use in their daily lives, such as communicating with friends, sharing images or sharing news. For example, previous experience of using Twitter has contributed to raising the level of participation, where dealing with Twitter interface was easy (Tur & Marn, 2015).

Therefore, the minimal technical skills required to engage in collaborative learning in social media are expected to be held by the new generation of students who already use social networks. Furthermore, social media, as artefacts that mediate the practices of intersubjective meaning-making, have been used in education as a platform for collaborative learning, which can assist in the sharing of ideas, opinions, information and various sources by teachers and students alike in order to construct meaning and knowledge (Hamid et al., 2015). These sources include different forms, such as pieces of writing, images, video, website links, which can be exchanged easily among the users.

From the above discussion, collaborative learning is when two or more persons tend to work in groups; unlike individual learning, it allows the exchange of information and resources. Collaborative learning that takes place on social media is consistent with sociocultural theory. From the sociocultural perspective, learning is a social process, which means that individuals learn as a result of their interaction with the more knowledgeable (in this study other students or

teachers). This interaction is mediated by tools such as languages, signs and technology (in this study social media) (Vygotsky, 1978).

A number of research findings have highlighted the potential of collaborative learning in social media. For example, Duffy (2011) points out that social media support collaborative learning through providing technical affordances to carry out educational activities. Furthermore, Hassan and Landani (2015) note that there is a relationship between collaboration and student engagement in social networks, wherein the interaction in group work enhances learning between the group members. They also add that students in such a context share information to generate different or new ideas and develop new content. Similarly, the use of Facebook, as asserted by Wang et al. (2012a), enables students to pursue collaborative work within the group work, which helps members evaluate and develop their work before it is handed over to the teacher. The teacher, in turn, uses the social network to follow the details of activity, the procedures in developing activities and the extent of students' participation in the collaborative work as evidence of the individual's engagement through social media.

However, although a number of studies have found that social media offer collaboration between students, there are different views that accept or reject this claim, needing more exploration. Osgerby and Rush (2015), for instance, raise a concern about the potential of using Twitter as a pedagogic tool and its value in supporting collaborative learning within group work. In addition, students, according to Lin et al. (2013), are confused about how to use Twitter's technical affordances, particularly in terms of doing assignments. Therefore, there are contradictions in previous studies concerning students' perceptions of using social media in collaborative learning .

3.6.2.5 Online discussion

Besides the students' use of social networks in their daily lives, some teachers in educational settings have taken advantage of their technical affordances and provided an appropriate environment for networking, thus promoting discussion among student to achieve their educational goals. Hamid et al. (2011) note that different social media attract use among students for personal and educational purposes, believing that such means facilitate their learning. Students' perceive that Twitter, for example, facilitates fast communication and therefore they are willing to develop their knowledge about how to use it for educational purposes (Osgerby & Rush, 2015). Technical affordances such as facilitating fast communication and students' perceptions have led some teachers to employ social networking in education to promote discussion between students and teachers alike. In a study by Hamid et al. (2015) in Malaysian and Australian universities, students' perceptions of using social technologies in terms of enhancing student–student and student–lecturer interactions were examined. Peer learning was found to result from formal and informal interaction on social networks, with students sharing resources and constructing knowledge in a discussion environment.

The length of class sessions limits the quantity and quality of discussions among the students in terms of time, so the use of Twitter to discuss the activities can give students an opportunity to gain more information and detail about the subjects discussed. It gives students the chance to continue the discussion without concern for the time spent, which is not possible during the class sessions (Junco et al., 2011). Indeed, the time and space available to students outside the limits of the classroom helps them to think before participating, generate new

ideas and questions, post accurate information and reflect on other students' posts.

Students' discussions taking place on social media also affect classroom discussion in turn, but this may not be positive. An example of this is provided in McCole et al.'s (2014) research, who found that although student posts on Facebook could include some of value, the support provided by the teacher to continue participation on Facebook, clarifying or adding additional information about a particular idea, could be at the expense of in-class discussion. Moreover, maintaining a continuous discussion on Twitter, from the students' perspective, is difficult. Because, it needs competency training and experience in order to ensure successful use; otherwise, they may prefer face-to-face discussion over online communication (Osgerby & Rush, 2015).

3.7 Technical Affordances of Internet-Based Applications

Recently, social media have competed to attract users by offering technical affordances facilitating communication, dialogue and the sharing of sources, in particular websites and applications used through computers or smartphones. Social networks have provided a new global revolution in fast communication, allowing individuals all around the world to be connected. Figure 3.1 shows examples of social networks that are widely used, such as Facebook, Twitter, WhatsApp.

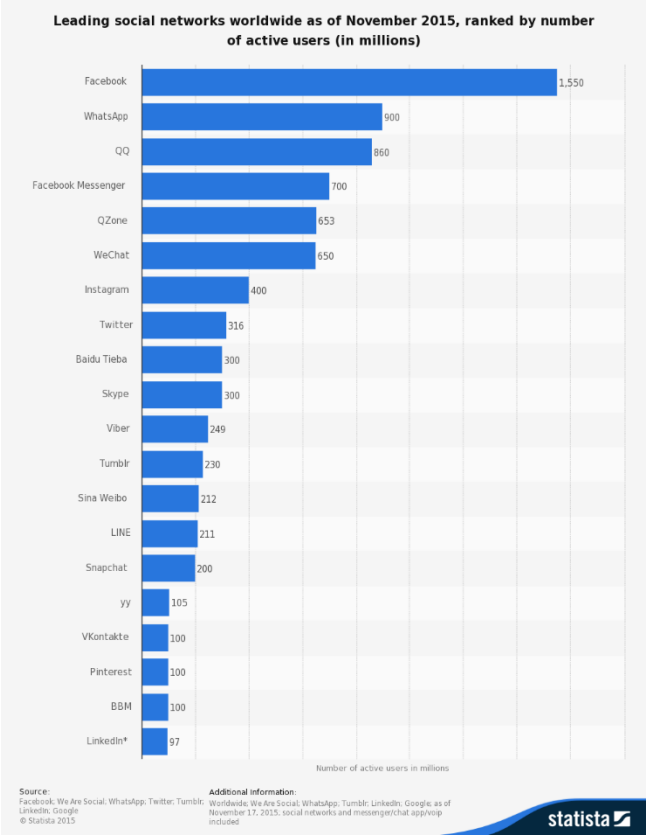


Figure 3.1: Leading social networks worldwide as of January 2016, ranked by number of active users (in millions)

(http://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/)

There are different definitions of social networks in the literature. For instance, Dorsch and Greenberg (2009, as cited in Vance, 2012) argue that social networks are interactive platforms on which individuals can create profiles to be identified by others and share interests and activities; they define social networking as "interactive online membership communities on the Web where individuals can create an online profile, connect to other users, and share interests and activities through online messaging, e-mail, photos, video, blogs or discussion groups" (p. 63). Boyd and Ellison (2007), in addition, defined social networks as:

> *…web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system; (2) articulate a list of other users with whom they share a connection; and (3) view and traverse their list of connections and those made by others within the system. (p. 211)*

This definition incorporates three concepts: the users' identities, represented by their profiles; the relationship between users; the list of contacts related to the community in social networks. Code (2013) goes further and argues that Boyd and Ellison's (2007) definition of social networks attempts to discriminate between the idea of "social networking" and the "social network", trying to figure out the difference between the two latter is like trying to fully understand every ranking factor. In addition, she focused on the technical and structural aspects of social networks, although there are important outcomes: agency expression, identity exploration and self-development. Furthermore, Code (2013) finds the terms social networks or social networking confusing and thus uses the term social media, defined as follows:

> *Social media is a group of Internet-based applications that enable communication amongst individuals and groups, the creation and exchange of participative user-generated content, and the expression of individual and collective agency. (p. 39)*

Code's (2013) definition is adopted in this study as it takes into account the technical means (Internet-based applications) that mediate individuals' and groups' behaviour (communication, creation and exchange) with a view to achieving personal development (individual and collective agency expression). In other words, this definition is consistent with the sociocultural perspective, including the subjects, objects and tools that mediate activities to achieve desired goals. As mentioned earlier, development is achieved through individuals' participation in various sociocultural activities and through the use of the means and tools provided by their cultural environment. From the above, we can understand the meaning of social media. In what follows, examples of social media, related to the study, are presented.

3.7.1 Advantages and disadvantages of using web 2,0 in learning

According to the affordance of using web 2.0 in learning, this section identifies the advantages and disadvantages of using web 2.2 in learning.

3.7.1.1 Advantages

Many studies have pointed to a number of advantages of incorporating Web 2.0 tools in education. For example, Enonbun (2010) noted that the use of Web 2.0 in education offers many advantages that enhance the roles of both teachers and learners, including increased learner involvement, treating the world as a classroom, collaboration stimulating learning and a classroom open 24/7. According to Enonbun (2010), using Web 2.0 in the learning process enhances learners' participation which encourages them to become an integrated part of the classroom. The technical affordances offered by social media allow them to create a social presence on networks, add or modify educational content, for example, in blogs or wikis, and participate in the virtual environment. In addition, the widespread use of web 2.0 has contributed to the emergence of new classes not found in conventional education, where "web 2.0 technologies expand the classroom to the virtual world and allow the world to become a classroom" (Enonbun, 2010, p. 22). Furthermore, many studies, according to Enonbun (2010), have documented that collaborative learning or competition among students promotes learning. He argued that web 2.0 has affordable techniques that provide an appropriate environment in which students can work with each other or compete. Therefore, its use in classrooms for collaboration and competition may enhance learning. Furthermore, the classroom is available 24/7 because Web 2.0 draws on an internet connection, meaning that students can use it any time. As long as students are connected to the Internet, they could be

in an educational environment, whether in or out of the classroom, depending on the nature of used (Enonbun, 2010).

In terms of Twitter, Dunlap and Lowenthal (2009) note:

> *Besides the benefit of enhancing the potential for positive social presence during online learning opportunities, Twitter has other instructional benefits. Addressing Student Issues in a Timely Manner, Writing Concisely, connecting with a Professional Community of Practice, Supporting Informal Learning, and Maintaining On-going Relationships. (p. xx)*

3.7.1.2 Disadvantages

Despite the advantages of web 2.0 tools, many studies have indicated some drawbacks to use them in the educational context and they may not be appropriate for all instructional situations (Dunlap & Lowenthal, 2009). For instance, Enonbun (2010) identifies a number of problems with using web 2.0 for educational purposes, including limited computing resources, the integrity of work being compromised, plagiarism being very easy in the online world and lack of privacy. Enonbun (2010) also points out that not all students have computers that allow them to access resources available on the Internet, particularly in developing countries. Comparing the quality of the internet connection and the availability of computers in the US and European countries, students in developing countries often face challenges in the application of web 2.0 tools in education. In terms of the integrity of individual work being compromised, this is due to other students having access to content without restrictions. Moreover, plagiarism is very easy on the Internet. The vast amount of information on the Internet may prompt some students to copy certain content to complete their work, which explains educational institutions' strictness in adopting plagiarism policies. Moreover, privacy is important for some students and this may conflict

with the openness of web 2.0 as communication between students and instructors is no longer the same. All assignments and feedback may be available to other learners to comment on or evaluate, causing discomfort for some students. A study conducted by Shane-Simpson, Manago, Gaggi & Gillespie-Lynch (2018) showed that the affordances of specific social media contributed to the preference of that tool. In addition, privacy plays a critical role in selecting specific social media.

Similarly, Grosseck and Holotescu (2008, cited in Dunlap & Lowenthal, 2009) identify some possible disadvantages of using Twitter. They note, for example, that Twitter can be time consuming and addictive and may even encourage bad grammar due to the character limit. Furthermore, as noted by Dunlap and Lowenthal (2009), although Twitter is free to use on a computer connected to the web, tutors and students might be charged for accessing Twitter on mobile phones (depending on their plans), e.g. texting or data fees. Nonetheless, the authors note that Twitter as a tool in online courses is not void of certain deficiencies and limitations; however, its benefits speak for themselves. Hence, it is important to look for new ways of Twitter incorporation by paying attention to web 2.0 tools, modification of an LMS, and constant work on enhancing the level of the social presence (Dunlap & Lowenthal, 2009).

3.7.2 The use of social platforms in the learning process

Social media are used in education as learning tools. For example, Tur & Marn (2015) study showed that Twitter contributed to the formation of positive attitudes towards using social media in education. Furthermore, many students tend to use them in the future. Facebook in addition, has been employed to improve student engagement by providing course material and grades as part of a Facebook

group (McCole et al., 2014) and to develop student engagement through course activities, as well as to support a community of practice on a Management Information System (MIS) course to enhance learning (Racthman & Firpo, 2011). Twitter has been used as a classroom tool (Lin et al., 2013) and students' grades have been found to be affected by its use (Junco et al., 2011). Moreover, WhatsApp has been found to facilitate communication between students and teachers alike through providing a social environment for discussion and dialogue, as well as encouraging the sharing of resources among students (Bouhnik & Deshen, 2014).

Several studies that analyse the subject of social media in education have focused on Facebook. For example, McCole et al. (2014) conducted a study to explore the integration of Facebook in a college course. The use of Facebook was optional to improve student engagement with course material and learning. The findings revealed that the students' engagement with course material and with other students on Facebook group assisted them in understanding course concepts. Furthermore, students' engagement in the Facebook group positively affected both their performance and enjoyment of the course. Finally, based on analysis of the Facebook communications, McCole et al. (2014) fond that the relationship between students and the tutors developed through the use of the Facebook group.

Similarly, Facebook was used to support a community of practice on an (MIS course) to enhance learning (Racthman & Firpo, 2011). Students use Facebook to share prior knowledge and experience. The findings suggest that Facebook is a promising technology in helping students, within small groups, to share and

construct tacit knowledge, in particular because it is easy to use and students are familiar with it.

In addition, Junco et al. (2011) examined the causal link between Twitter use and student engagement and grades as an outcome variable. They found that the experimental group and faculty were more engaged in the learning activities than the control group, which in turn increased the semester grade point averages. In addition, compared with traditional classroom activities, it has been found that the participants in Twitter (students and faculty) were more engaged in the learning process, by generating discussions and topics interest. In addition, the usefulness of Twitter as a tool for learning and motivating engagement has been demonstrated experimentally and has imposed new roles for teachers, inducing them to be more active and participatory (Junco et al., 2011). However, it seems that in their study, unlike the control group, the experimental group received an hour-long training on the use of Twitter, which may have influenced students' prior perspectives of the pedagogical affordances of Twitter and thus the study's findings.

With regard to using WhatsApp in education, teachers employ it for "communicating with students; nurturing the social atmosphere; creating dialogue and encouraging sharing among students; and as a learning platform" (Bouhnik & Deshen, 2014, p. 217). The findings of Bouhnik and Deshen's (2014) study showed that students benefited from its technical, educational and academic affordances in their learning. However, some issues arose when using WhatsApp, such as not all students having smartphones, the exchange of inappropriate messages between students, many irrelevant messages and students' expectation that the teacher would be available at any time.

Some students, however, may experience dissatisfaction and frustration when using technology such as social networks in education, as found by Bouhnik and Deshen (2014). Prior experiences may affect students' perceptions of the use of modern technology, particularly due to the ways in which technology is employed in education, where teachers potentially focusing on the technical affordances rather than the pedagogical affordances. Furthermore, trying to control learning outcomes is one of the influencing factors in the use of social media in education due to the extreme change in the role of teachers online. Therefore, some "teachers perceived the pedagogical affordance of [social networking] least favorably" (Quek & Wang, 2014, p. 117). Cloete, Villiers & Roodt (2009) point out that in their study although 64.4% of lecturers see the possibility of using social networks such as Facebook, others interestingly report that it cannot be used for group work or online discussion. From their perspective, the reasons underpinning the lack of use of Facebook for educational purposes were respectively due to the following reasons: they already had a dedicated "secure" site (e.g. an LMS), some tools were better than Facebook, the course did not need to be delivered on online, lack of familiarity with using Facebook for educational purposes and security issues. Ozkan and Koseler (2009, as cited in Wang et al., 2012b) argue that "sound instructional design, positive teacher attitude and strong technical support" need to be considered for the effective use of Facebook in learning, without which its "potential will hardly be realised" (p. 437).

Using social networking in education involves many functionalities that enhance the mechanism of effective teaching and learning. In this context, Twitter, for instance, has been used in following educationally relevant activities: ensuring continuity in class discussions, giving students a low-stress way of asking

questions, engaging in a book discussion, sending class reminders and campus event reminders, providing academic and personal support, assisting students to connect with each other and with instructors, forming study groups and doing optional and required assignments (Junco et al., 2011). Wang et al. (2012b) conducted a study entitled “Using the Facebook group as a learning management system: An exploratory study”. The study aimed to explore students’ perceptions of using Facebook group as an LMS. Facebook was used to put up announcements, share resources, organize weekly tutorials and conduct online discussions. At the end of each course, an online survey was conducted to explore the students’ perceptions of using a Facebook group as an LMS. The findings revealed that students were satisfied with the affordances of Facebook as it offered LMS functions.

Similarly, Birnholtz et al. (2013) noted that Twitter helps teachers to determine the extent of students’ understanding of content. In addition, it offers to students a platform to find answers to difficult questions or explore concepts through engagement with other classmates. WhatsApp, in addition, has technical, educational and academic advantages (Bouhnik & Deshen, 2014). In terms of its educational benefits, Bouhnik and Deshen (2014) came to find that WhatsApp stands to benefit students by encouraging them to create "a comfortable environment and an in-depth knowledge of colleagues, which had a positive impact on the way the debate was handled.” (p. 117). Furthermore, they found that WhatsApp has academic advantages “such as the accessibility of learning materials, teacher availability, and the continuation of learning beyond class hours” (Bouhnik & Deshen, 2014, p. 217). Junco et al. (2011, p. 126) noted that “Twitter allowed us to extend conversations in ways that would not have been practical during the hour-long class sessions”. In addition, students' perceptions

of the benefits of interaction using social networks include “engaging with content”, “peer learning”, “promotes critical thinking”, “self-directed learning”, “self-monitoring of learning progress”, “platform to interact with lecturers”, and “enjoyable and interactive learning environment” (Hamid et al., 2015, p. 4).

Sfard (1998) proposed two approaches to the construction of new knowledge in education, namely the *acquisition* and *participation metaphors* (see Table 3.3). The acquisition analogy assumes that the human mind is like a box that stores equipment via learning processes and under the guidance and support of the teacher. From this perspective, materials are perceived as a personal property or characteristic of a learner’s mind; once the learner acquires knowledge, it “may be applied, transferred (to a different context), and shared with others” (Sfard, 1998, pp. 5–6). The *participation metaphor*, according to Sfard (1998), primarily concerns the relationship between the individual and the community in which the learning occurs; cognition and knowing are distributed among members of the community and their educational environment (McLoughlin & Lee, 2007), so it is difficult to isolate learning activities from the context. Learning, therefore, is a process involving the actual participation of an individual within the community, such as discussion, dialogue and sharing, to build collective knowledge within learning activities. For Sfard (1998), “Participation is almost synonymous with ‘taking part’ and ‘being a part’ and both of these expressions signalize that learning should be viewed as a process of becoming a part of a greater whole” (p. 6). Generally, Sfard (1998) concluded that the *acquisition* and *participation metaphors* are not necessarily to be treated as distinct or contrasting concepts, but rather complement each other.

Table 3.3: Metaphorical mappings.

Acquisition metaphor		Participation metaphor
Individual enrichment	Goal of learning	Community building
Acquisition of something	Learning	Becoming a participant
Recipient (consumer), (re-)constructor	Student	Peripheral participant, apprentice
Provider, facilitator, mediator	Teacher	Expert participant, preserver of practice/discourse
Property, possession, commodity (individual, public)	Knowledge, concept	Aspect of practice/ discourse/activity
Having, possessing	Knowing	Belonging, participating, communicating

Source: Adapted from Sfard (1998, p. 7)

3.7.2.1 Promotion of student-centred learning

Regarding to McLoughlin and Lee's (2010) argument, enabling student-centred, self-regulated and independent learning through social media requires a rethinking of the suite of pedagogy that supports the personalization of learning to meet "learners' needs, preferences, perceptions and mental models" (p. 30). In today's changing educational landscape, personalized learning in social networks requires awareness of the new roles of teachers and students. For example, Hamid et al. (2011) "believe that the use of social technologies, to some extent could change [the] traditional practice of spoon-feeding to … student-centered" (p. 9). Therefore, students need to determine the appropriate tools in the learning environment to achieve their goals and needs "for networking, knowledge construction, social interaction and collaboration" (McLoughlin & Lee, 2010, p. 31). The teacher's role in turn shifts from that of the only authentic knowledge provider to a provider of educational scaffolding and feedback. In what follows, the shifted responsibilities are examined in far more background information to enhance the teacher's position in the educational development.

3.7.2.2 Encouraging critical thinking

Social media has been found to promote critical thinking, leading to greater focus and accuracy in students' posts due to the fact that all the posts can be viewed

by students and teachers. This in turn contributes to the development of critical writing skills in posts aimed at receiving positive feedback from others (Hamid et al., 2015). Schafersman (1991) defined critical thinking as:

> *…correct thinking in the pursuit of relevant and reliable knowledge about the world. Another way to describe it is reasonable, reflective, responsible, and skillful thinking that is focused on deciding what to believe or do. A person who thinks critically can ask appropriate questions, gather relevant information, efficiently and creatively sort through this information, reason logically from this information, and come to reliable and trustworthy conclusions about the world that enable one to live and act successfully in it. (p. 3)*

However, in the context of Saudi Arabia, Al Ibrahim (2014) conducted a study to identify the pedagogical affordances of a social networking site in higher education and found that despite the frequent posts online, students exhibited a lack of critical thinking and in-depth posts. Therefore, in order to optimize the application of social networking in education and to take advantage of its technical affordances, the students need to acquire critical thinking skills to participate qualitatively more than quantitatively on social media. Moreover, teachers have a crucial role in advising students how to think critically because it is not something acquired from birth or from parents, but it is needs "trained and knowledgeable instructors ... to impart the proper information and skills" (Schafersman, 1991, p. 3).

3.8 Theoretical Framework of the Study

In this section of the chapter, I present and discuss the study's theoretical framework which is sociocultural theory and its assistant frameworks.

3.8.1 Sociocultural theory

Vygotsky was one of the first researchers to confirm that a child's interaction with others, especially adults, plays a key role in the formation of structure and determines the process of mental functioning. He believed that higher mental functions are formed gradually through a series of social interactions. This perception is based on the notion that mental development conditions and mechanisms exist outside the individual, in the sociocultural environment. Development is achieved through the individual's participation in various sociocultural activities and through the use of the means and tools provided by the cultural environment. Vygotsky focused on the concept of social activity as the basic unit of analysis. The concept of activity applies to the individual as it applies to the group, so it is a social concept with duel notion.

The first notion concerns the sociocultural context on the one hand and social interaction on the other. Activity in this regard refers to the context surrounding the process of interaction. For example, when a child participates in a certain social activity, he/she engages in interaction with adults or more capable peers, who organize the process of interaction according to sociocultural patterns, eliciting statements from the child; through this means, higher mental processes are gradually formed. According to Vygotsky (1978):

> *An interpersonal process is transformed into an interpersonal one. Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological), and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher function originates as actual relation between human individuals. (p. 57)*

Vygotsky (1978) addressed the subject of memory to show the social nature of learning and cognitive development. He tried to demonstrate that mediated memory appears in children who have the opportunity to interact with experienced adults. Through the interaction process, they discover tools which support them in remembering and then the child's development moves from normal memory into memory supported by the acquired cultural elements. Therefore, it is expected that the child's ability to remember will remain limited in the absence of interaction with expertise and high ability (Vygotsky et al., 1978). Vygotsky stated that children with difficulties in conducting certain assignments are often able to complete them when they work under proper supervision and assistance or with more competent peers. He noted that "what children can do with the assistance of other might be in some sense even more indicative of their mental development than what they can do alone" (Vygotsky, 1987, p. 85). This is because the skills employed by the child independently are those that have already been formed earlier and become mature. These skills are what Vygotsky called the *actual developmental level.* However, knowing this level does not tell us about future possible development. As for skills which can be achieved only with the assistant of adults or peers, they are those that are still in formation or are on the way to transformation from being external to internal; these skills indicate the level of potential development. The distance between the two, the level of potential development and the actual developmental level, represents what Vygotsky (1978) called the zone of proximal development (ZPD), namely "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86). Furthermore, in order to determine the capacity of

children, it is required not only to know what they can do in the present, but also what they can do in the immediate future. In my point of view, the sociocultural theory is consistent with the aspects of this study in which the perceptions, identities and organizations of the participants are not detached from the impact of the sociocultural context.

In the next section, the concepts of identity, digital identity and agency will be presented in detail. Firstly, the identity will be presented by reviewing recent works by some of the famous authors on this field. Next, the digital identity will be defined whereby the person's real identity must be proved in the digital world, especially to approve some digital properties and secure some personal private data.

3.8.2 Identity

In terms of identity and online presence, Aresta, Pedro, Santos, and Moreira (2013) distinguish between a context-driven online identity and a user-driven online identity. In their study, the context-driven online identity profile included participants claiming that they constructed and managed their online identity in line with the digital environment, whereas the user-driven online identity profile concerned those who claimed to be constructing an identity free from contextual constraints, namely, one that reflected their real selves offline (Aresta et al., 2013, p. 82). This emphasizes the notion of identity formation as a *process*: "identity is something we *do*, rather than simply something we *are*" (Buckingham, 2007, p. 8).

Motivating the mechanism of interaction and involvement between students and teachers in the learning environment is not only about creating knowledge and gaining new capabilities, but also about "new identity experiences that shape our

self continuously" (Ligorio et al.,2008, as cited in Annese and Traetta, 2009, p.91). According to Buckingham (2007), identity is a "social process" and it "is a fluid and contingent matter" (p. 6). Identity may be difficult to define, but it has a strong correlation with the social context in which it is formed (Aresta et al., 2013). It can be argued that identity and agency are "lived in and through activity and so must be conceptualized as they develop in social practice" (Holland, Lachicotte, Skinner, & Cain, 1998, p. 5). To understand these concepts, Holland et al. (1998, p. 7) drew our attention to focus on "the development of identities and agency specific to practices and activities situated in historically contingent, socially enacted, culturally constructed 'worlds': recognized fields or frames of social life". They view identity as "a central means by which selves, and the sets of actions they organize, form and re-form over the personal lifetimes and in the histories of social collectives" (Holland et al., 1998, p. 270).

The notion of *figured world* was first introduced by Holland et al. (1988) in their seminal book untitled "identity and agency in cultural worlds" where they postulated their theory of self and identity (Holland et al., 1998, p107), which they described as "a socially and culturally constructed realm of interpretation in which particular characters and actors are recognized, significance is assigned to certain acts, and particular outcomes are valued over others" (p. 52). Such a world, as Holland et al. (1998) pointed out, demonstrates the processes that individuals perform in different circumstances to develop their acts within specific activities. This world provides sources (in this study: social media, language, educational content, individual characteristics) to develop behaviour and identities.

Goffman (1959) put forward the front stage and back stage concepts to describe the self-presentation in interaction between people. He argued that the performance and relationships between the actor and the audience are at the core of personal interactions, where the person, as an actor on the front stage, plays a different role aiming to *impress* different audiences and guide them to form an image about aspects of the self that he/she wants to present. Both actor and audience can play interchangeable roles in the same context. On the back stage, according to Goffman (1959), the actor stops their performance on the stage and returns to the true self.

When transposing Goffman's concepts of the front stage and back stage to online environments, students in social media (front stage) attempt to present themselves through their posts or profiles in order to be known by others. They aim to direct others to portray a mental image about their desired characteristics of the self or ideal personality. The roles that students play represent how they perceive their agency in social media, which promotes them to engage in online interaction in order to achieve lesson objectives, this in turn may reflect the perceptions of others about their identities in the classroom. However, on the back stage, when students feel that they do not need to play a role in social networks with others, they tend to portray their real selves.

Furthermore, Goffman (1959) argued that the actor performs different roles and therefore portrays different identities, depending on the situations in which they are placed. Similar to Goffman's argument, Koole and Parchoma (2013) emphasize that "Individuals may also develop multiple identities which they enact strategically depending on their goals and the context" (p. 15). This may be due to the fact that as boyd (2002) points out, "One's identity is comprised of both a

personal internal identity and a public social identity. As people engage socially, they project aspects of their internal identity into a social identity for others to perceive" (p. 11). Thus, it can be argued that the situations and the different types of tools used by students (e.g. Facebook, Twitter and WhatsApp) may contribute to the formation of their identities and agency by offering and facilitating self-personal presentation and the deployment of similar principles of connectivity, narrative and communication (Van Dijck, 2013, p. 199). Also, Facebook encourages people to use their real identities which is one of the prominent forces behind the internet's push toward a "real identity" (van der Nagel & Frith, 2015).

Self-presentation in social media is influenced by four aspects that differ from the physical environment: persistence, searchability, replicability and invisible audiences boyd (2007). First, with regard to persistence, in comparison to real-world speech, provided posts and information on social media are recorded for posterity. Second, concerning searchability, through social networks, identities and ideas are formed and expressed through texts, which can be found by others online through the use of search tools and key strokes. Third, in terms of replicability, through the copying and pasting of texts online, they can be transmitted from site to site to retain the original text. Fourth and finally, audiences, in contrast to the real world, time and space, play a crucial role in understanding expressions and meanings that occur online because our expressions are influenced by where and when we participate, which may give audiences a perception of our identity.

3.8.3 Digital Identity

According to Aresta et al. (2013, p. 177), "dissociating identity from the social context in which it is built is almost impossible". Recently, with the widespread

use of social media, a new concept has emerged called digital identity. Dalton and Crosby (2013) state that *"digital identity* is the composite of images that individuals present, share, and promote for themselves in the digital domain" (p. 1). The concept of digital identity, however, refers not only to the presented images to an audience, but also, as Wild et al. (2008, as cited in Aresta et al., 2013) explain, represents a new approach to constructing identity:

> *As learners use different tools, they build up digital identities in various situations and applications, by constructing knowledge in online interactions, by collaborating and exchanging ideas, by creating learning communities. (p. 5831)*

Intentionally or unintentionally, the use of social media, as a means of carrying out activities and projects, may contribute to create of individuals' digital identities (Costa & Torres, 2011). In other words, texts, videos, photos or profiles posted online reflect some aspects of the users' personalities, they create identities that reflect, for example, their personal information, interests, feelings and emotions. Digital identity is no different from one's identity in the physical world in which it is continuously in progress and this is reflected in the online environment (Costa & Torres, 2011). Social interaction, trust and authenticity, in addition, play crucial roles in the development of digital identities. During digital identity formation, users bring with them some elements of their physical selves and culture and choose which aspects they want to present to a given virtual community. This selectivity in the nature of the digital identity may be greater than in the physical world (Peachey & Withnail, 2013). This leads to a discussion of agency.

3.8.4 Agency

Initially, individuals are not born as agentive beings; rather, agency is developed by engaging in social institutions. Code (2013) derives from the literature a definition of human agency as follows:

> *Agency is the capability for individuals to consciously choose, influence, and structure their actions in order to achieve a desired outcome (Emirbayer & Mische, 1998, Gecas, 2003).*
>
> *Agency is an ability individual develop through social means and personal experiences (Mead, 1932, p. 39)*

Human agency is defined by Inden (1990, p. 23, as cited in Holland et al., 1998, p. 42) as follows:

> *The realized capacity of people to act upon their world and not only to know about or give personal or intersubjective significance to it. That capacity is the power of people to act purposively and reflectively, in more or less complex interrelationships with one another, to reiterate and remake the world in which they live, in circumstances where they may consider different courses of action possible and desirable, though not necessarily from the same point of view.*

Holland et al. (1998) argued that there is a dilemma in human agency in that humans are seen as social producers and also as social products. Inden (1990, as cited in Holland et al., 1998, p. 42) noted that "people do not act only as agents. They also have the capacity to act as 'instruments' of other agents, and to be 'patients,' to be recipients of the acts of others" (p. 23).

The person agency is dependent on the degree to which the person identifies with the figured world (Holland et al., 1998). Bandura (2001, 2006, as cited in Code, 2013) argues that agency is enacted through three different modes: direct personal agency, proxy agency and collective agency. Proxy agency occurs when individuals do not have the will, ability, or skill to achieve self-development.

In the educational realm, students are seeking intermediaries, in this case a teacher or other students, in their learning in a particular field if they do not have the ability to meet an objective, or if they believe that other individuals are more capable than them (Code, 2013). As noted by Bandura (2001, p. 13, as cited in Code, 2013), “proxy agency [thus] relies heavily on perceived social efficacy for enlisting the meditative efforts of others”. People in collective agency share beliefs about their collective power to accomplish desired outcomes (Bandura, 2001, 2006, as cited in Code, 2013). In the educational context, students have conjoint beliefs about their collective ability and strengths and utilize these strengths to achieve a class objective. This performance of agency is the core of collective agency (Code, 2013).

In the literature, few studies have focused on students’ identity and agency development outside classrooms (Manca & Ranieri, 2014). Exploring digital identity and agency is important to understand students’ perceptions of social media (Facebook, Twitter and WhatsApp) use in education (in this case Saudi Arabian ICT students’).

3.9 Summary of the Chapter

In this chapter, the relevant literature has been reviewed. The gap that the current study attempts to fill has been discussed in light of the theoretical framework that guided this study. Throughout the chapter the area of focus has been defined, in addition to the research gap and the research questions that emerged from this. The beginning of the chapter has reviewed the literature about ICT in education and social media, the link between Web 2.0 and e-learning in higher education. As a matter of fact, the main objective of this chapter was to inquire and explore the main fields and areas related to the discussed theme in this study. The

relevant literature concerning technical and pedagogical affordances of social media in education has been discussed including their definition and related educational implications. The major theories discussed in this chapter are the sociocultural theory, affordance theory and identity and agency because of their significance for this research.

To summarize, this literature review represents evidence regarding the pedagogical affordances of social media platforms, but need thorough explanation. The next chapter will be devoted to the presentation of the implemented methodology in order to conduct data collection and analysis in order to practically investigate the pedagogical affordances of social media in the field of higher education in Saudi Arabia.

4 CHAPTER FOUR: METHODOLOGY

4.1 Introduction

This chapter provides a detailed description of the research methodology and the followed design to conduct this study. At the beginning of this chapter the main and sub questions are presented followed by the philosophical assumptions, research paradigm, ontology and epistemology. Then, the methodology of the study is presented including a description of the sampling, research methods and instruments. Also, ethical issues and the procedure of data collection are presented followed by the data analysis processes and theoretical considerations related to the analysis. I conclude the chapter by discussing the methods of analysing the pedagogical affordances of three cases in social networking, namely Twitter, Facebook and WhatsApp. These methods are discussed in detail (subsections 4.6 and 4.7) and after arguing some issues relating to some important assumptions (subsections 4.2, 4.3 and 4.4).

The study aims to investigate the impact of social media on education in terms of pedagogical practices in the College of Education at the University of Ha'il. As mentioned before, the formulation of such questions is conducted in terms of the aims of the research. That is to say, to present the pedagogical affordances of social media networks -namely Facebook, WhatsApp and Twitter- in higher education in Saudi Arabia.

To achieve these aims, the study seeks to answer the following research questions:

4.2 Research Questions

The major and controlling question of my research paper is:

What are the pedagogical affordances of social media networks- namely Facebook, WhatsApp and Twitter – in higher education in Saudi Arabia?

Following this question are other sub-questions:

1. What affordances do the students' and teachers' perceive from the use of social media in higher education?
2. How does the students' prior experience with social media influence their use of such media in the *Education and Communication Technologies* module?
3. What are students' and teachers' views of the benefits of social media networks for learning and teaching?
4. What are the potential impacts of social media on teaching and learning in higher education?
5. How is digital identity constructed and perceived by students and teachers?

Accordingly, these research questions require an adequate command of both the *epistemology*, which stands for our capacity or way to know the reality and *ontology* which stands for our ideas about the nature of reality.

4.3 Research Methodology

This thesis is concerned with introducing and addressing learning and teaching students with implementing new technologies. As a matter of fact, using new technologies in the field of teaching and learning requires the adoption of new methods. As far as the methodology of this thesis is concerned, I actually adopted

a case study methodology, which enables in-depth examination of the opinions and views of participants using the following methods: individual interviews, observation and observation of the students' and teachers' interaction on the social media. in order to obtain the necessary qualitative data. In addition, the use of case studies can provide a general understanding of other similar cases, situations and phenomena.

As noted by Robson (2002), the case study is a common research method which focuses on a case concerning an organization, individual, a group or other targets. Furthermore, this approach can be implemented using both qualitative and quantitative data collection and analysis. In addition, using a case study allows the researcher to gain an in-depth understanding of a phenomenon regarding a targeted unit with a view to generalizing the findings to the wider population (Cohen, Manion & Morrison, 2007).

One of the main advantages of using a case study is that it can provide examples of real people in real situations, leading to clearer understanding of concepts. Nisbet and Watt (1984, as cited in Cohen et al.,2007) argued that by using a case study, the readers will be able to comprehend how ideas and principles can be combined. For Hamilton and Corbett-Whittier (2012), "case study uses in education research began to gain great prominence in the 1970's in the UK and the USA as a reaction against the dominant positivist model which focused on measurement and statistical analysis as the means of attaining valid and valuable insights into schools and classrooms." (p:5).

Yin (2009) argues about the importance of case study in the field of education since it actually identifies three major forms of analytical approach to education which are Exploration, description and explanation. Exploration is actually related to collecting data and looking for the relevant patterns in it, meanwhile description

stands for framing the study questions to focus on all the possible theories relevant to the studied educational pattern, and explanation which proceeds to answer the study questions. Accordingly, Swales (2004) argues that a case study can be viewed as a research genre aiming to frame a bounded unit and provides various principles which guide the research design as well as its quality and process.

Additionally, case studies are usually elaborated within the qualitative paradigm and can be applied to small groupings and individuals for the sake of answering various questions related to the context, processes and relationships as well as practices. This makes this kind of methodology suitable for this study which focuses on studying individuals as well as groupings of both students and teachers in the context of higher education in Saudi Arabia.

4.4 Research Paradigms

There are different approaches that can be used in educational research to answer the research question. Selecting appropriate approaches are governed by the kind of knowledge/ questions that researchers seek to obtain/ answer (Pring, 2000). Whereas each approach has its specific methods and objectives that help achieve desired results. According to Guba (1990), the ontological, epistemological and methodological questions adopted in a particular paradigm can help shape and drive research.

The paradigm in this study is *interpretivism* for the following reasons. First, as Blumer (1969, as cited in Lombo, 2017) points out, people act deliberately and create meaning through their daily interactions. Second, people are neither “the passive dolls” nor “the cultural dopes” of positivism as they actively shape their social world (Lombo, 2017, p. 15). Third, the researcher examines “the social

world … in its natural state without the intervention of, or the manipulation by the researcher" (Becker, 1970, p. 4, as cited in Lombo, 2017; see also Hammersley & Atkinson, 1983, as cited in Lombo, 2017).

4.4.1 Ontology

One of the main aspects to be considered in relation to the research validity is ontology. Ontology is a word derived from ancient Greek, meaning "to teach", "to be". It is considered to be a core notion in philosophy, in which ontology represents the nature of the knowledge and the area of knowledge which someone has in a specific field of knowledge and science. From a psychological point of view, it is a tool for examining the environment, including beliefs, traditions or rules, to come up with a clear image of how people think, through many levels of examination (Burger, 2010).

Zhang (2005) adds that the philosophical stream of ontology is a form of thinking that examines (the nature of) reality, characteristics, incidents, form, nature and quality in every existing entity. Therefore, ontology is a philosophical field that examines the compatibility of existence and builds theories within many scopes of both wide and narrow streams and recreates these scopes to clarify aims and approaches.

Ontology is defined as "the study of being" (Crotty, 2003, p.10). It is concerned with "what kind of world we are investigating, with the nature of existence, with the structure of reality as such". Generally, ontology forms the metaphysics of reality and being and what is found behind reality and being by finding the differences and similarities between things and properties that might relate these entities to one another. Based on Aristotle, the concept of ontology embraces four

fields that question the reliability and validity of being, whether it exists solo or is generated along with another elements (Gruber, 1993).

Ontology can be divided into a minimum of two types: a realist ontology and a relativist ontology (Pring, 2000). On the one hand, a realist ontology considers that reality exists independently of the researcher and is to be discovered. On the other hand, relativists believe that absolute truth does not exist as meaning is constructed by the interpretation of people.

Having given these definitions of ontology, it is now pertinent to identify the ontology underpinning this study, namely one of multi-realism, which essentially concerns the social world of meanings. In this world, I, as the researcher, try to explore the students' and teachers' perceptions of the pedagogical affordances of social media in the sociocultural context.

I argue here that adopting an interpretivist, multi-realist ontology is an appropriate choice for the study due to the nature of the reality that I seek to explore, i.e. the pedagogical affordances of social media in the higher education context through subjective student experience. This experience differs relatively from one person to another.

4.4.2 Epistemology

Epistemology is "a way of understanding and explaining how we know what we know" (Crotty, 2003, p. 3). Epistemology also develops a framework for identifying possible courses of knowledge and determining and ensuring that these sources are sufficient and genuine (Crotty, 2003). Epistemology is a philosophical field that studies the path required to build logical and rational findings and outcomes (knowledge) in a specialized scientific field, reflecting the nature of scientific knowledge and its source. Therefore, it is connected to the

form of knowledge and considers many areas, such as what knowledge is, how it can be acquired and how the human race obtains it. Epistemology is also considered a branch of philosophical science that deals with the nature, source, integrity and scope of an individual's knowledge. This term can be used interchangeably with the theory of knowledge, which, to some extent, can inform epistemology (DeRose, 2005). Furthermore, this concept encompasses the ability to identify differences between what is considered knowledge and what is considered opinion. Knowledge refers to a mass of facts that we all have in a specific field that is the same for everyone and may change with the course of time in a way that represents a full scientific experience. However, what a group of people believe does not necessarily apply to every category of the scientific field. This leads to questions about the nature of the relationship between the knower and what can be known. The interpretive paradigm seeks to reveal the subjective reality that is "constructed by human beings as they engage with the world they are interpreting" (Creswell, 2009).

The epistemological stance employed here is social constructionism. Social constructionism is defined by Crotty (2003, p. 42) as "the view that all knowledge and therefore all meaningful reality as such is contingent upon human practices, being constructed in and out of interaction between human beings and their world and developed and transmitted within an essentially social context". Thus, meaning is constructed rather than discovered. Furthermore, Hammersley (2007, p. 298) states that "What is distinctive about constructionism … is that it takes the fact that social phenomena are culturally constituted and draws from it the conclusion that these phenomena can only be understood by describing *the processes by which* they are culturally constituted as the things they are". In this

context, I view social constructionism as an appropriate stance to attain the meaningful reality that the study seeks to explore in light of its aims.

In the case of this study it is very significant to note that epistemology accounts a great deal in impacting the students learning behaviour. This can be elaborated through observing the students in the process of learning taking into consideration the importance of personal epistemology as being much more relevant to learning. Using an epistemological approach will help us to focus on understanding how personal epistemology is used from part of the student as well as the teacher in both the processes of learning as well as teaching.

4.5 Methodology

Research methodology aims to describe, evaluate and clarify the reasons for using specific methods (Wellington, 2000). According to Crotty (2003), methodology refers to the strategy, process, design or the plan of action that explains the selection of specific methods, while linking these methods with each other to test the desired results.

The chosen methodology concerns the path that the researcher uses to determine the most reliable, authentic and truthful outcomes and results. Good research uses the best and most appropriate methodologies to solve problems and create applicable knowledge via the given data (Dawson, 2002). Based on this, the researcher should pay attention to the methodologies to be used in the research to achieve the objectives and supply the readers with valid answers to the research questions. In addition, it would be highly unethical to use inappropriate methodologies in research, such as using a biased sample for a certain religion or race, or drawing the wrong conclusions because of inadequate

research tools (Kumar, 2005). Therefore, in this study I chose case study to explore the pedagogical affordances of social media in higher education.

4.5.1 Case study

As mentioned before this research employs case study methodology, which enables in-depth exploration of the opinions and views of participants using methods, semi-structured individual interviews, observation, to obtain qualitative data. In addition, the use of case studies can provide a general understanding of other similar cases, situations and phenomena.

As noted by Robson (2002), the case study is a common research technique which focuses on a case concerning an organization, individual, a group or other targets. Furthermore, this approach can be implemented using both qualitative and quantitative data collection and analysis. Using a case study allows the researcher to gain an in-depth understanding of a phenomenon regarding a targeted unit with a view to generalizing the findings to the wider population (Cohen et al., 2007).

One of the main advantages of using a case study is that it can provide examples of real people in real situations, leading to clearer understanding of concepts. Nisbet and Watt (1984, as cited in Cohen et al., 2007) argued that by using a case study, the readers will be able to comprehend how ideas and principles can be combined.

4.5.1.1 Strengths and weaknesses of case study research

The fact that a research methodology has weaknesses does not mean that it is not suitable for application, but it may affect the strength of the research; equally, the fact that a research methodology has a number of strengths does not mean

it is the best. Some weaknesses may be taken into account by the researcher before and after conducting research to minimize the impact on the final results. Also the choice of methodology depends on the nature of the study, regardless of the weaknesses that may appear and can be overcome during the study. Similar to other methodologies, the case study has a number of strengths and weaknesses. Nisbet and Watt (1984, as cited in Cohen et al., 2007) noted a number of strengths. First, the results of case study research are readily understandable for a wide audience due to the simple language used. Moreover, unlike studies employing large-scale data, case studies can capture unique features which might hold the key to understanding the target situation.

Furthermore, case studies are powerful in terms of reality. They provide possible interpretations of similar cases and situations. In addition, a single researcher can conduct research alone, without needing to work as part of a full research team. Finally, case study research can present the researcher with unanticipated events and uncontrolled variables. Nisbet and Watt (1984, as cited in Cohen et al., 2007) also identified a number of weaknesses of case studies. First, the results obtained may not be generalizable, except to certain situations in which researchers may see their application. In addition, the data cannot be cross-examined and checked and hence case studies can be biased and subjective. Finally, they are vulnerable to dilemmas of observer bias, in spite of attempts made to deal with reflexivity.

4.5.2 Sampling

A key step in the overall planning of research is to identify and select the sample. Hence researchers must decide upon an appropriate sampling strategy early on when planning the research. The sample should be selected from the general population. Sampling should consider four important factors: the sampling

strategy, the size of the sample, the possibility of access to the sample and the representativeness and parameters of the sample (Cohen et al., 2007).

There are two main ways of sampling that can be used depending on the research purpose: *probability sampling* (i.e. stratified sampling, systematic sampling, random sampling, etc.) and *non-probability sampling* (i.e. purposive sampling, quota sampling, convenience sampling, etc.). The difference between the two is that each member of the population in a probability sample has an equal chance of selection, whereas in a non-probability sample, members of the population have no equal chance of selection.

The participants in this study comprised male Saudi students pursuing a Bachelor of Science degree at the College of Education (UOH) and faculty members working in the Education Technology department and teaching the ICT module. The students participating in this study were enrolled on a compulsory module entitled *Education Technology and Communication* (ETC 2014) at UoH. The students came from different areas (cities, small towns, villages, or the desert) and thus potentially had different social, cultural and historical perspectives. All students were male due to the gender-segregated system in education, which made the choice of and access to female participants complicated. All faculty members in this study held a degree in educational technology and had differing years of experience.

Students from different specializations at level five, studying the ICT module (ETC 214), were randomly distributed into groups by the Deanship of Admission and Registration. The faculty members teaching this module were distributed randomly among these groups. Students on ETC 214 were divided into four

different groups taught by four lecturers. Each classroom normally consisted of 40 to 43 students. The module was taught face to face and through social media.

For the interviews, 18 participants were selected: lecturers (n = 3) and students (n = 15). Thus, three out of the four faculty members were chosen. The 15 students were chosen purposively from the three cases – Twitter, Facebook and WhatsApp (five students from each). Employing purposive sampling was to give a chance for students from different disciplines to participate in this study. In addition, few students were motivated to engage in the interviews and thus I selected those who were willing to participate. Furthermore, for each case, I chose one group leader and four other students from the different groups.

4.6 Research Methods

As stated by Wellington (2000), the research questions decide what methods of data collection are appropriate. Hence this research was based on semi-structured interviews and classroom and social media observation as ways of obtaining data.

4.6.1 Classroom observations and social media textual analysis

The use of observation aids researchers in understanding the context and helps them “to see things that might otherwise be unconsciously missed, to discover things that participants might not freely talk about in interview situations” (Cohen et al., 2007, p. 305). In this study, observation was used to collect data that it might have been difficult to obtain using other kinds of methods. In addition, it can be used to supplement or explain data collected from interviews and to understand the context.

There are different kinds of observation, located on a continuum from

unstructured to structured. This study adopted semi-structured observation to collect "live" data (students' and teachers' roles) from "live" situations (classrooms and online interaction in Facebook, Twitter and WhatsApp). As argued by Cohen et al. (2007, p. 305):

> *…semi-structured observation will have an agenda of issues but will gather data to illuminate these issues in a far less predetermined or systematic manner … [A] semi-structured observation … will be hypothesis-generating rather than hypothesis-testing. The semi-structured observation … will review observational data before suggesting an explanation for the phenomena being observed.*

During observation, to prevent any influence on the community under observation, I chose to be a non-participant observer and only focused on recording notes.

This study included classroom and social media observation. Three cases were observed in both types of activity. Three groups were observed over ten weeks, resulting in fifteen observations of classroom sessions. All classes were video recorded beside recording notes. Online activity (Twitter, Facebook and WhatsApp) was observed daily to record all activities and interaction between participants (students and teachers). The focus of the observation was on the participants' roles and engagement in the classroom and on social media. Different aspects of roles could be anticipated and understood through observing participants' performance in the classroom and on social media. The data collected from observation were used to supplement the data gathered from the interviews.

4.6.2 Interviews

The interview is a conversation between the interviewer and another person or several people used to gather data related to the aims and objectives of the study (Savenye & Robinson, 2004).

The interview is different from an ordinary conversation: it is directed towards clear and specific goals. The researcher records the responses obtained on a previously prepared form or on audio-tape. Savenye and Robinson (2004) stress that it is important to take into account that both the researcher gathering the data and the interviewee(s) are human beings. It is vital to listen to them carefully and record what they say. In analysing interview data, it is necessary to stay close to the raw data and interpret them as the main source, rather than representing the interviewer's perceptions and interpretations. Bernard (as cited in Savenye & Robinson, 2004) emphasized that it is important to record the interviews as it is hard to memorize what an interviewee says and this is crucial for analysing the data. Bogdan and Biklen (as cited in Savenye & Robinson, 2004) added that good interviews are those that allow free conversations produced with ease, making it easier for the interviewee to provide rich perspectives about the points addressed. The interview is a way of collecting data directly, rather than respondents writing their answers to questions. The respondent gives information and answers orally and the researcher, in turn, writes or records these responses.

The interview is one of the best ways of collecting data if the researcher prepares a plan for implementation in an effective way. Respondents might prefer to provide information orally over presenting them in writing. In addition, the interview, in general, is an appropriate way to obtain personal information. Moreover, it is an instrument used to identify facts, opinions and beliefs that differ

from one person to another and can also be used to verify data and information obtained from other sources. In particular, Savenye and Robinson (2004) highlight that the interview allows the researcher the opportunity to explore some ideas in depth and introduce more focused questions.

Several types of interview can be found in the literature. Wellington (2000) outlines three types of interview that vary in terms of their structure, namely structured, semi-structured and unstructured.

In the *structured interview* the researcher prepares a list of questions before the interview and asks these questions to all selected interviewees in a similar sequence. Parsons (1984, as cited in Wellington, 2000) stated that this type of interview provides high quality and consistency of data with a large sample. The disadvantage of the structured interview is that it is less flexible than unstructured and semi-structured interviews. However, according to Wellington (2000) the structured interview is more predictable and may provide an easier framework for analysis.

The second type of interview is the *unstructured interview*; this has no predetermined set of questions prepared by the researcher. Parsons (1984, as cited in Wellington, 2000) noted that using unstructured interviews may be useful in the early stage of research. However, they should be conducted by an expert interviewer who also has good knowledge of the research aims and objectives. The problem with the unstructured interview is that the direction is unpredictable and the data may be difficult to analyse (Wellington, 2000).

The third type of interview is the *semi-structured interview.* In contrast to the structured interview, this is flexible and not completely pre-determined (Wellington, 2000). Parsons (1984, as cited in Wellington, 2000) noted that this

type of interview gives the interviewer good flexibility with the questions asked and their order. The main characteristic of the semi-structured interview is that there is a set of questions previously prepared by the researcher; these can be open or closed ended, giving the interviewer the opportunity to gain further information from interviewees. The use of the semi-structured interview, compared to the structured interview, may lead to richer interactions and more personalized responses (McDonough & McDonough, 1997).

In this study, interviews were used to obtain a deeper understanding of participants' perceptions of the pedagogical affordances of social media and also to identify the challenges they may face. The use of interviews was intended to give interviewees the opportunity to express and describe the reality of their experiences in their own words. Gillham (2000) considers semi-structured interviews the best source for gaining rich data. The interview questions in the semi-structured interviews were open-ended to give the interviewees the opportunity to present and expand on their ideas and opinions. The interviews were conducted after gathering data through classroom and social media observation. This helped in preparing the interview questions to focus on certain important points raised by the observations.

4.7 Trustworthiness

When researchers prepare and conduct research, it is essential that they check its reliability and validity. In qualitative research, the terms trustworthiness, credibility and transferability are used to refer to validity and reliability as they are not viewed separately.

There are different ways to ensure validity in qualitative research, for example *triangulation*, *respondent validation* and conducting a *pilot study*. In terms of the

former, Winter (2000, as cited in Cohen et al., 2007) asserts that the extent of triangulation can be used to address the validity of qualitative data. Furthermore, Silverman (2010), reviewing validation methods, asks if triangulation and respondent validation are considered imperfect, what is there that is better?

Cohen et al. (2007) define *triangulation* as the use of two or more methods to test the same aspects of human behaviour. In the social sciences, triangulation is used to address the richness and deep complexity of human behaviour, conferring more than one standpoint in meeting the aims of the research, e.g. using quantitative and qualitative data. The use of a multi-method approach in qualitative research has advantages over the use of a single method of data collection, which potentially gives limited insight into the complexity of human behaviour and the circumstances in which human beings interact (Smith, 1975, as cited in Cohen et al., 2007). Triangulation is a powerful way of demonstrating concurrent credibility, particularly in qualitative research. The multi-method approach used in this study was intended to increase the credibility of the findings. The main data collection was through semi-structure interviews, following classroom and social media observation. This strategy allowed me to obtain more reliable information from participants, in addition to allowing for deeper investigation of the data.

In this study, a *pilot study* was conducted to test the methods and enhance credibility. Robson (2002) defines a pilot study as a smaller version of the real study, making it possible to check the feasibility of the study and address any possible concerns. All the participants' responses were taken into consideration to overcome the problems that could arise when applying these methods and thus increase the credibility of the study.

Furthermore, *respondent validation* was used to enhance credibility. To gain respondent validation, the researcher goes back to the participants with the primary findings and refines them according to the participants' reactions (Reason & Rowan, 1981, as cited in Silverman, 2010). Accordingly, I reviewed responses and findings with a sample of participants to ensure the fitness of the results.

4.8 Data Collection Procedures

This sub-section presents the procedures of data collection followed after obtaining both a Certificate of Ethical Approval from the Graduate School of Education at the University of Exeter and permission to conduct the study and collect the data. Data collection was implemented at the University of Ha'il in the second semester of 2014.

The first phase of data collection comprised the pilot study. As mentioned in the previous sub-section, the pilot study aimed to test the methods used in the study thus improving the credibility of the research. In addition, it ensured that all questions in the interview were clear and served the aims and the objectives of the study. Furthermore, it helped to practice and manage the time before undertaking the main study. The pilot interview was conducted with one lecturer and three students.

The second phase comprised the observation of the students posted entries on a qualitative background. In this phase messages posted by students on the aforementioned social media networks were explored. In this sense notes were taken and the content of the messages were analysed taking into consideration the pedagogical affordances provided by those social media networks. This actually helps me to better shape the semi-structured interviews, and for this

students as well as teachers' blogs were explored in order to read the messages posted on them.

The third phase entailed the semi-structured interviews, following on from the classroom and social media observation. The interviews in this stage were intended to provide a more in-depth investigation of issues and address any ambiguities in the data obtained from the classroom and social media observation. I chose the participants through purposive sampling and the semi-structured interviews, lasting 45–60 minutes each, were conducted face-to-face with three lecturers and fifteen students. Furthermore, I took into consideration all possible precautions for conducting interviews with participants such as determining the time and place and potential difficulties.

4.9 Data Analysis

As noted above, to address the research questions (Table 4.1), the participants were divided into three case studies (Table 4.2). Each case study consisted of one faculty member and five students. Cases 1, 2 and 3 used Twitter, Facebook and WhatsApp respectively. The data gathered from the three cases were analysed to answer the research questions. In this part, I present the data analysis process, which consisted of thematic analysis. It is worth mentioning that all the data were obtained in Arabic and consequently had to be translated into English.

Before discussing the data analysis procedures, the research questions are presented and matched with the type of data and data analysis methods. The focus of the analysis was directed by the research questions presented in Table 4.1.

Table 4.1: Research questions

	Research questions	Data collection	Data analysis methods
-	What affordances do the students and teachers' perceive from the use of social media in higher education?	Observation Interviews	– Thematic analysis
-	How does the students' prior experience with social media influence their use of such media in the Education and Communication Technologies module?	Observation Interviews	– Thematic analysis
-	What are students and teachers' views of the benefits of social media networks for learning and teaching?	Observation Interviews	– Thematic analysis
-	What are the potential impacts of social media on teaching and learning in higher education?	Observation Interviews	– Thematic analysis
-	How digital identity is constructed and perceived by students and teachers?	Observation Interviews	– Thematic analysis

Table 4.2: The three case studies

Case	Faculty member	Students	
Case 1	T1T	S1T, S2T, S3T, S4T, S5T	Twitter
Case 2	T1F	S1F, S2F, S3F, S4F, S5F	Facebook
Case 3	T1W	S1W, S2W, S3W, S4W, S5W	WhatsApp

4.9.1 Thematic analysis

Data analysis consists of different stages and it is one of the most complex processes in qualitative research. The amount of data obtained from participants does not indicate the quality of research; rather quality lies in the interpretation

and the correlation with existing theoretical models (Wellington, 2000). This study generated a large volume of data in the form of interview transcripts, as well as from the classroom and social media observation, presenting a challenge and a difficult task in terms of analysis. It was expected that the data would provide valuable information in meeting the research aims and objectives, but also there might be some data of little or no importance.

The findings from the interviews, classroom and social media observation were derived thematically. Braun and Clarke (2006) define thematic analysis as "a method for identifying, analysing and reporting patterns (themes) within data" (p. 79). Participants' responses were coded and analysed to recognize and categorize patterns and then manage these patterns into themes (Braun & Clarke, 2006). Braun and Clarke (2006) proposed six phases to guide the analytic process (see Table 4.3).

Table 4.3: Phases of thematic analysis.

	Phase	Description of the process
1.	Familiarizing yourself with your data	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2.	Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3.	Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme.
4.	Reviewing themes	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic "map" of the analysis.
5.	Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6.	Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back from the analysis to the research questions and literature, producing a scholarly report of the analysis.

Source: Braun and Clarke (2006, p. 87)

The data were thus transcribed, translated, categorized, codified and then compared with the whole set of data using a comparison method, requiring more than one review within and across the participants' responses (Lalik & Potts, 2001). All the Arabic extracts were translated into English and reviewed by translation specialists to ensure faithfulness and authenticity. The thematic analysis helped create thematic charts and order the topics to develop a deep understanding of the interpretation of the research problem, present the findings clearly and generate a logical outcome.

4.9.2 Social media content analysis

The data gathered from social media was analysed by using the community of inquiry as analytical framework. The community of inquiry is a concept initially introduced by the pragmatist philosophers Peirce and Dewey, emphasizing the nature of knowledge construction and the flexible process of scientific inquiry (McDonald & Loch, 2008). A relevant definition of the community of inquiry concept is that it relates to a group of individuals involved in an empirical inquiry of various problematic situations or issues in education. The community of inquiry framework implies that knowledge is embedded within a social context (Garrison & Arbaugh, 2007).

As illustrated previously, the use of social media has become an impressive subject in higher education. In this context, an exploration of the community of inquiry is important (Kucuk & Sahin, 2013). E-learning has acquired essential components in the 21st century and thus Garrison (2011) is committed to presenting a realistic framework for research and practice in the field. The interest in Garrison's framework is based on the adequacy of the modelling of community inquiry introduced in an attempt to explain three major elements of educational

transactions: cognitive presence, social presence and teaching presence. For example, the application of this framework allows educators to understand the technological, instructional and organizational dimensions of e-learning because they need to strengthen aspects of their teaching presence (Maddrell, Morrison & Watson, 2011).

Garrison et al. (2000) argue that there is an extensive educational experience related to the community of inquiry consisting of educators and students, identified as key participants in the educational process. In this relationship, the specific model of the community of inquiry suggests that learning takes place through the interaction of cognitive presence, social presence and teaching presence (see Figure 4.1). In terms of cognitive presence, the participants in the educational process tend to construct relevant meanings through patterns of communication (Swan et al., 2008). Social presence, in addition, indicates “the ability of participants in the Community of Inquiry to project their personal characteristics into the community” (Garrison et al., 2000, p. 89). The element of the teaching presence within the community of inquiry framework is associated with the design of unique educational experience and the responsibility for facilitating cooperation among teachers and students (Anderson, Rourke, Garrison, & Archer, 2001). Each element of the community of enquiry has a list of indicators that refer to a specific presence. Using these indicators helped me to analysed the participants' inputs in social media. As a result, any interactions that took place in social media had meaning and in turn, complement the interviews and observation data.

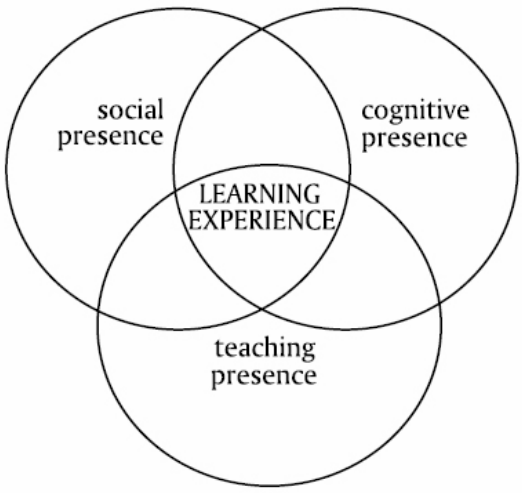


Figure 4.1: Community of inquiry framework (Garrison et al., 2000)

4.9.3 Managing the data

All the transcripts of the faculty members' and students' interviews were imported into the MAXQDA qualitative software. According to Ritchie and Lewis (as cited in Alebaikan, 2010), the software employed for analyses should be used as a support but not as the main tool of analysis as it lacks the intelligence possessed by the researcher. MAXQDA supports Arabic and thus all transcripts were analysed in Arabic. However, codes, themes, subthemes and analytical writing was undertaken in English.

The data analysis process comprised various steps. During the writing-up of field notes and transcribing interviews, I took notes of personal ideas and reflections that came to my mind as I collected and analysed the data. I started data analysis by transcribing and translating the interviews and the analysis was driven by the research questions.

The transcribed interviews were e-mailed back to participants for validation. The recorded interviews were transcribed fully over a lengthy period – up to three months. This allowed the participants to examine their transcripts and to confirm

that the transcripts conveyed the message they wanted to express (respondent validation). In addition, the transcripts translated into English were emailed to expert translators with the Arabic audio files for validation. Data display was undertaken through thematic analysis (Ritchie & Lewis, 2003).

4.10 Ethical Considerations

The debate over ethics is very complicated (Howe & Moses, 1999). According to Willington (2000), the ethics of research comprises a set of moral principles and a code of conduct that controls what people do and it is important that educational research follows ethical criteria. This means that researchers should be aware of ethical considerations in their research and should take appropriate measures to ensure that their research procedures are ethical. Consideration of the ethical aspects of any research study entails examining the researcher's ethical methodology in forming the research as a whole. As put by Chilisa (2005):

> *Ethical issues in research include codes of conduct that are concerned with protection of the researched from physical, mental, and/or psychological harm. The codes of conduct to protect the researched include ensuring anonymity of the researched and confidentiality of the responses. (p. 675)*

According to the ethical guidelines of the British Education Research Association (BERA, 2011), ethical issues concern voluntary informed consent, deception, the right to withdraw and the storage and use of personal data. In what follows, a brief overview of certain ethical aspects considered in this study is provided.

First, consent was obtained from the university to conduct the study and a Certificate of Ethical Approval from the Graduate School of Education at the University of Exeter granted. Then, permission to conduct the study and collect the data was sought from the College of Education (UoH).

At the first meeting with participants, they were informed of the purpose of the study and how it could contribute to the development of e-learning in the higher education context. In addition, they were informed about people who would have access to the data during the study and in the future. The participants were provided with a letter explaining the research aims and highlighting the confidentiality of the data and their anonymity, namely that no-one would have access to their names and responses except the researcher. In line with Pring (2000), for confidentiality purposes the participants' identities were anonymized. In addition, the participants were informed that they were under no obligation to enrol in the study and they had the right to withdraw at any point.

Furthermore, I asked participants in the face-to-face interviews and focus groups to give permission to record the discussion. I emphasized that the data from the interviews would be stored securely. I also ask for approval to use quotations in their own words in the study report. Furthermore, the transcripts of the interviews were available for review by the participants in order to confirm their responses. All data were collected in Arabic, translated into English and checked by a professional editor.

The final aspect of complying in full with research ethics is that the researcher should work with participants to draw conclusions and give them copies of the reports. According to BERA (2011), researchers should provide participants with a debriefing sheet on the research, as well as handing them any relevant publications or papers that result from their participation. Thus, participants have the right to review the study findings with the researcher.

4.11 Data Collection Report

This section addresses the various phases of data collection (see Table 4.4,

classroom and social media observation and interviews) conducted at the UoH from 23 March 2014 to 25 May 2014.

First, prior to carrying out the research, consent was obtained from the Graduate School of Education at the University of Exeter. Then, consent was obtained from the UoH. Initially, the ethics form was sent to the study supervisors for comment before being approved by the Graduate School of Education. In the meantime, I asked my supervisor to provide me with a consent letter to start data collection. I used this letter to gain consent from the UoH to carry out my study in the Educational Technology Department at the Education College. In line with the official procedure for gaining consent from the UoH, all documents related to the data collection (supervisor's letter, the first page of the ethical approval, research timeline) were sent through the Cultural Bureau of the Royal Embassy of Saudi Arabia in London.

Table 4.4: *The phases of data collection*.

Week	Date	Instruments	Sample and activities
1	23 March	I introduced myself to the community of the study and explained the aim of the study.	
2	30 March	Classroom and social media observation	Three classes and interaction on social media were observed.
3	6 April	– *Pilot study*: interviews were conducted with one lecturer and five students to verify and develop the interview questions in terms of the clarity of wording and the time to complete the interview with participants. All participants in the pilot study took part in the main study. – *Altering interview questions* based on the previous stage.	
4	13 April	Classroom and social media observation, key interviews	Three classes and interaction on social media were observed. Then, (3) faculty members and (15) students were interviewed.
5	20 April	Half-term assessment I met faculty members to discuss some aspects that I had noticed or problems that faculty and students encountered.	
6	27 April	Classroom and social media observation and interviews	Three classes and interaction on social media were observed. Then, (1) faculty member and (5) students were interviewed.
7	4 May	Classroom and social media observation and interviews	Three classes and interaction on social media were observed. Then, (1) faculty member and (5) students were interviewed.
8	11 May	Classroom and social media observation and interviews	Three classes and interaction on social media were observed. Then, (1) faculty members and (5) students were interviewed.
9	18 May	Extra time for any missing interviews	
10	25 May	Getting ready to return to the UK	

In the first week, I met with the head of the Educational Technology department and I shared with him a copy of the supervisor's consent letter, ethical approval, the study title and the research objectives. During this meeting I reviewed the schedules and names of the four teachers who taught the ETC module in preparation for a meeting with them.

Then, I met and introduced myself to the four faculty members. During this meeting, we have discussed the teaching methods that were used to deliver the ICT module, module tasks and the social media tools (Table 4.5) used to blend this module. The faculty members were given a letter outlining the aims of the study, the importance of their participation and how data would be collected and used. In addition, they were informed of those who would have access to the data (BERA, 2011, p. 5). My contact number and e-mail address were included in the letter so that they could contact me regarding any questions or concerns that needed to be discussed. In addition, the faculty members were informed that they had the right to refuse to answer any question and to withdraw from the study at any time; therefore, there was no duress or obligation to enrol in the study (BERA, 2011, p. 6). Furthermore, they were assured in the consent forms of confidentiality and anonymity. I emphasized that their names and the information they gave would be kept completely confidential and would not be disclosed; pseudonyms would be used for each participant. Finally, I obtained consent from them to participate in the interviews and observations.

Table 4.5: ICT module, module tasks and social media tools.

	Faculty member	**Date**	**Time**	**Social media tools**
1	T1	Sunday	12.00–14.00	WhatsApp
2	T2	Monday	10.00–12.00	Facebook
3	T3	Wednesday	10.00–12.00	Twitter

Afterwards, I asked the faculty members to allow me to present my study to their students inside the classrooms. In each classroom I introduced myself to the students and they were given the same information as the faculty members, following the same procedures. Finally, I obtained consent from them to participate in the interviews and observations.

In the second week, I was invited to join the created groups on Facebook, Twitter and WhatsApp by the faculty members. Then, I undertook observation of three classes and the interaction on social media (Facebook, Twitter and WhatsApp). I informed the faculty members and students that all classroom sessions would be video recorded. A number of comments were made concerning teaching methods and activities during the classes at the end of each session.

In the third, I conducted a pilot study to test the interview questions after translating them into Arabic. The aim was to test the methods in order to enhance credibility. I received some comments about the interview questions: some questions were ambiguous and needed to be reformulated; the duration of the interview was too long, so the interviewee might get bored.

In the fourth week, I observed three classes interaction on social media (Facebook, Twitter and WhatsApp) and I started to conduct the key interviews with the 18 participants (3 faculty members and 15 students). These interviews focus on their knowledge of social media. Each interview took between 10 and 15 minutes. I took into consideration the availability of interviewees and the progress of the interviews, thus the appointments were arranged day by day.

In the fifth week, there was a half-term assessment and I got benefit from this time to meet faculty members to discuss some aspects that I had noticed or

problems that faculty and students had encountered. In addition, I shared some ideas that could be used to encourage students to participate in social media.

In *weeks 6*, *7* and *8*, I conducted interviews with the 15 students and 3 faculty members after classroom observation. These interviews were conducted with participants willing to participate in this study. I undertook interviews with the faculty members first due to their teaching commitments.

In *week 9*, I undertook missing interviews with five students and one faculty member. The cause of the missing interviews was the students' and faculty members' learning and teaching commitments. At the end of week 9, I sorted through the observation data (classroom and social media) and the interviews with students and faculty members and collected all relevant documents. The interactions between participants on Facebook, Twitter and WhatsApp were archived in MS Word day by day. I did this to prevent any loss of data, such as the deletion of comments or accounts by students or faculty members.

In *week 10*, I obtained a letter from the Dean of the Education College stating that I had completed the process of data collection. In addition, I requested a copy of consent letter issued by UoH to carry out my study. After that, I returned to the UK on 28 May.

Chapters 5, 6 and 7 report the findings of the qualitative data analysis. The themes addressing the research questions are ordered in four main sections: 1) technical affordances as perceived by participants; 2) pedagogical affordances as perceived by participants; 3) the need to construct a virtual community, friendships and digital identity on social networks as perceived by participants; 4) the influence of social media on students' characteristics.

Each theme is supported by the gathered data from the observations and interviews. Quotations are coded by numbers and characters to distinguish between the participants and their case study groups. For example, S1T refers to student number 1 in the Twitter group and T1W refers to the teacher in the WhatsApp group.

4.12 Summary of the Chapter

In this chapter, I have presented various key features of this study, I started with commenting on the participants in this inquiry, namely teachers and students, as well I commented on their number and the way they were selected for the interview process. Later on, I presented a schedule of the questions of this study as well as the methods I actually applied for the sake of analysing data. Procedures and methods of collecting data were also presented before moving to discuss the ethical considerations of this research study. The next chapter of this research will be devoted to expose on the various pedagogical affordances of social media networks, namely Facebook, WhatsApp and Twitter on higher students as well as teachers in the College of Education at Ha'il University in Saudi Arabia. As well various aspects of this impact will be represented namely personal, social, pedagogical and technical.

5 CHAPTER FIVE: FINDINGS PART ONE

Participants' views regarding the challenges of using social media networks in higher education.

5.1 Introduction

The qualitative findings are reported in Chapters Five, Six, Seven and Eight, drawn from the interviews and observations with students and teachers. I provide the first part of the qualitative findings from the interviews and observations in Chapter Five. The interviews' quotations were coded using numbers and characters to distinguish between the participants and their case study groups. For example, S1T refers to student number 1 in the Twitter group and T1W refers to the teacher in the WhatsApp group.

As a matter of fact, the discussion of the question of pedagogical affordances of social media networks, namely, Facebook, WhatsApp and Twitter, cannot be realized without exploring and investigating the various challenges of social media technologies in terms of personal or individual prospects as well as collective prospects. Hence, the next chapter (Chapter Six) presents findings related to the discussion of the affordances provided by Twitter. The next chapter (Chapter Seven) is devoted to the discussion of the affordances provided by Facebook. Finally (Chapter Eight) is devoted to the discussion of the affordances provided by WhatsApp. Detailed information about the process of qualitative data analysis was given in the research design chapter (see Chapter Four). The findings, then, are discussed and related to the literature and the context of the study, in an attempt to address the following research questions:

What affordances do the students and teachers perceive from the use of social media in higher education?

1. What affordances do the students and teachers perceive from the use of social media in higher education?
2. How does the students' prior experience with social media influence their use of such media in the Education and Communication Technologies module?
3. What are students' and teachers' views of the benefits of social media networks for learning and teaching?
4. What are the potential impacts of social media on teaching and learning in higher education?
5. How is digital identity constructed and perceived by students and teachers?

In this chapter the findings related teachers' and students' perceptions regarding the challenges of using social media networks in higher education are presented. The main challenges related to Twitter, Facebook and WhatsApp classified into four subthemes namely: personal, social, pedagogical and technical challenges

5.2 Personal Challenges

5.2.1 Twitter

To explore students' and teachers' perception about using twitter in higher education, I conducted interviews with 5 students and one teacher, at the College of Education at Ha'il university,

- ***Experience***

It is worth noting that after investigating the students at the College of Education at Ha'il university, many of them have no previous experience of using Twitter for educational purposes such as for learning for example. Accordingly, three out of the five interviewed students confirmed that they have not had any previous experience with using Twitter in their studies, thus for the student ST1, he commented as follows:

> *We do not have previous experience and this caused us fear. I mean, if we had chance to use it in high school or at university, we would use it normally and it would be helpful, and we could deal with it. (ST1).*

The remaining other students with their teacher at the college of education insisted on the importance of prior preparation and previous training of the students on the integration and the use of any social media and applying it to any module, which may enhance and improve their use of this type of technologies in learning. Students ST2 commented that:

> *There needed to be a foundation course before studying this module for almost a year to show us its importance in education, like the first step. (ST2).*

A teacher confirmed his students' points of view insisting on the importance of previous training at previous stages of the students' school life which may enhance and improve their use of this type of technologies in learning:

> *If we want to have effective use of social networks, they should be used in secondary school because more young students have iPads and use social networking sites... If students were trained at this stage, I expect that the level of use of social networking at the university would be effective. (T1T).*

- ***Difficulty of meeting with other members of the group at a fixed time:***

Another personal challenge of using Twitter expressed through the interviews is

related to the *difficulty of meeting with other members of the group at a fixed time*. The findings show that most interviewed students confirmed that they had a problem to arrange an appropriate time to meet with each other on Twitter to do tasks within the work group. For example, S1T comment that this was: “because it was a new experience for us and we could not meet at mutually convenient times” (S1T).

- ***Collaborating and working with other students***

The interviewed students talked about students using Twitter who are less committed to their learning objectives. The data analysis revealed that accordingly, two out of five interviewed students confirmed that they had difficulties working with some students. They mentioned that some students working within groups did not improve their skills and did not participate at all. For instance, S1T mentioned:

> *Some students were not engaging in the required way, or they engaged in a negative way. They saw it [work group] as a joke and they did not take it seriously. Some did not engage at all and they were merely joined in our group just as names. (S1T).*

Other students expressed plainly their interest to work on Twitter on a regular basis but individually since they regard collective collaboration or interaction as not fruitful to their study pursuits or educational purposes. Therefore, and according the interviews, two out of the five students preferred to work alone on Twitter, presenting their personal views. For instance, when I asked S3T about participation in the workgroup, he replied: “I prefer the individual work on Twitter. Individual work is more private, and I can express my opinion” (S3T).

However, a part of this individual preference to work on Twitter is due to family commitments which prevent some of the interviewed students to use Twitter

effectively for their study purposes . The findings show that all students had family commitments that could influence their engagement on Twitter. S3T for instance, explained:

> *The possible thing that affects Twitter usage is family commitment. I am not from Ha'il city and every two or three weeks I travel [to my home] to be with my family.*

5.2.2 Facebook

In the case of Facebook; I conducted interviews with different 5 students and one teacher, at the College of Education at Ha'il university, to explore students' and teacher' perception about using Facebook in higher education. Many of the interviewed students and teachers talked about their personal experience in the interviews that I conducted with them. I focused on their answers to diagnose their personal experience regarding their interaction on social media networks, to enrich my research with a feedback regarding their type of education as well as their socio-cultural convictions.

- ***Collaborating and working with other students***

The first point I could make, and after inquiring the students at the College of Education at Ha'il university, is that accordingly two out of the five interviewed students preferred individual work because they belief that the final work would be better. S1F, for example, stated:

> *…I prefer individual work because the final work will be better because I am confident with contents [that I did], and because of students not ready to deal with the collective work. (S1F).*

- ***The use of Facebook in education.***

The second challenges were *students' personal belief concerning the use of Facebook in education*. The interviews showed that most of the students did not

prefer using Facebook as a learning and communication tool in this module. Student, for example, S5F asserted:

> *Most students prefer other [social media] application. We do not like Facebook.*

Also, from the Facebook data analysis, I found that not all groups were active. However, the data analysis of classroom observations demonstrated that all groups completed the module tasks on time. Therefore, students used different social media, as mentioned by S2F:

> *It is necessary to have different social networks other than Facebook. We should not have one program.*

- ***The influence of technology on the students' health.***

The next aspect identified concerned *the influence of technology on the students' health*. One of the students made an interesting comment concerning the influence of extensive use of social networks on the users' health. When I asked S3F about the use of Facebook in this module he stated that:

> *Recently, there has been a dramatic increase in the number of young people wearing glasses or lenses and they often go to ophthalmologists. I saw this at university and this is from the frequent use of social networking sites through mobile phones. While driving, before going to bed, when they waking up and before prays, most of their time spent on the mobile. This is harmful to the health, the body and the mind. They use these things more than necessary.*

- ***Commitments at university, and academic loads.***

In addition, students cited commitments at university, namely their *obligations* and *academic loads*. Accordingly, three out of the five interviewed students attributed the reasons for the lack of use of Facebook to these issues. The first

reason was the imposed obligations by other modules and the second was academic load. S3F mentioned:

> *It is difficult to link students in two environments, because students are under pressure to attend the lectures, how do you ask them to do something else? It was difficult…It is hard to have a lot of modules [beside this module],…it is difficult to use Facebook every week.*

In addition, S5F added:

> *One of the reasons is that I have a high academic load in this semester. I have 19 credit hours.*

- ***Students' families' commitments outside the university***

Moreover, four out of the five interviewed students pointed out that there were commitments *outside the university*, such as *the students' families* and *work commitments* and they were causes for the low use of Facebook in this module. In illustration, S1F asserted:

> *S1F: I'm busy with other things.*
>
> *Interviewer: Like what?*
>
> *S1F: My job, after 17:00 pm until midnight, which is the appropriate time to use Facebook. (S1F).*

Student S2F mentioned another factor that prevents the use of Facebook in this module and he added:

> *My family commitments. (S2F)*

- ***Lack of skills and experience in using Facebook***

Another issue was the lack of skills and experience in using Facebook. Two out of the five interviewed students thought that a lack of personal skills and experience of using Facebook, in somehow, influenced their use in this module. For illustration, S5F commented:

The lack of skills prevented me from using Facebook.

In line with the previous comment, the student S3F stated:

> *I do not have any account on social networks except the Facebook, because the teacher asked me to create an account [for this module].*

While teacher demonstrated that some of the students had an experience of using social media and others have nothing to do with the Internet:

> *I used Facebook so that I could see the interaction of students in the educational process. The experience was encouraging and frustrating at the same time. I mean some of the students had an experience of using social media and others have nothing to do with the Internet. (T2T)*

The classroom observation data analysis showed that some students in the classroom, had difficulties regarding to creating accounts on Facebook, so the teacher tried hard to help them. But until the end of the semester; 60% of students did not create accounts on Facebook.

- ***Lack of motivation***

Finally, the data analysis indicated that the *lack of motivation* was a factor that influence the use of Facebook. Four out of the five interviewed students mentioned this issue and they do not have a motivation to get the benefit of Facebook. For instance, S5F commented:

> *Most students do not have a motivation to get the benefit of Facebook. (S5F).*

5.2.3 WhatsApp

In the case of WhatsApp, I have conducted interviews with different 5 students and one teacher, at the College of Education at Ha'il university, to explore their

perception about using WhatsApp in higher education. This section focused on their personal challenges regarding the use of social media in this module.

- ***The family obligations***

Concerning personal challenges, in accordance with the interviews, and from an individual perspective, the *family obligations.* According two out of the five interviewed students and their teacher pointed to family commitments being causes for the low use of WhatsApp in this module. S3W, for illustration, asserted that:

> *Yes, I have no time, and this is the reason behind not activating the WhatsApp specifically. (S3W).*
>
> *The Saudi culture has a special nature, the student is obliged by many things, [such as] his family…he has many family obligations after the university and this affects him. (T3T).*

- ***Lack of skills and experience***

The second challenges were *lack of skills and experience in using WhatsApp in education.* According to two out of the five interviewed students the lack of skills and experience affect the implementation of WhatsApp in this module and need more training. For illustration, S4W commented:

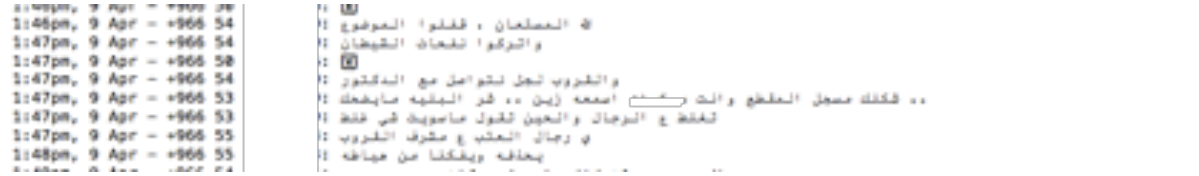
> *I never expected in my life that I would use social media in education. by using the mobile, I think, first, we need training. (S4W).*

- ***Inappropriate and annoying messages***

In addition, there were *inappropriate and annoying messages*. One student noted that some students used inappropriate words, which could be classified as offensive posts. S2W commented:

The students may receive criticisms from the other students on WhatsApp and this is due to the lack of quality control of participation on WhatsApp by the teacher or the head of the group. One student used the free discussion to write what he liked even if it may hurt other students.

Through observation of WhatsApp, I found that one of the students who got dismissed from this course was still a member of the group and students received harmless comments from him on WhatsApp. Surprisingly, the head of the group and the teacher did not use their authorities immediately to stop him. Figure 5.1 shows an example of inappropriate messages on WhatsApp. In addition, Figure 5.2 demonstrate inappropriate and annoying messages.



The above posts published by participants in Arabic are translated below:

Student 1: Oh my god. Please, finish this matter.

Student1: Leave the whispers of Satan.

Student 2: ✌

Student 1: And this group for communicating with the teacher.

Student 3:It seems you were (…) when you recorded this audio clip. Hear it again carefully. That is not funny.

Student 3:You hurt your colleague and you say I did not do anything.

Student 4:Oh man, the blame upon the group leader.

Student 4: Just delete it from the group.

Figure 5.1: An example of inappropriate messages on WhatsApp.

Figure 5.2: An example of annoying messages on WhatsApp

5.2.4 Summary of the personal challenges

By reviewing the findings of interviews, classrooms observations and social media messages namely Twitter, Facebook and the WhatsApp, I found that there are many personal challenges from the students' and teachers' perspective that may have a direct influence on the use of social networks in education.

Accordingly, more than half the interviewed students confirmed that they did not have any previous experience with using Twitter, Facebook and WhatsApp in their learning and they need more training. In somehow, it might influence their reaction towards social media use in education. While teacher in Facebook case demonstrated that some of the students had an experience of using social media and others have nothing to do with the Internet.

In addition, nearly half of interviewed students, confirmed that they had difficulties working with some students on Twitter and Facebook. They mentioned that some students on Twitter did not improve their work or did not participate at all, as well as students did not prefer to use Facebook but they instead work individually because they believe that the final work would be better,

Furthermore, most of the interviewed students in Facebook and WhatsApp pointed out that there were commitments outside the university, such as the students' families and work commitments causes for the low use in this module. In addition, students on Twitter confirmed that they had problems arranging appropriate times to meet with each other synchronously to do the tasks within the group work as the teacher asked them.

On the other hand, more than half interviewed students attributed the reasons for the lack of use of Facebook to these issues. The first reason was the obligations imposed by other modules and the other was academic load. Moreover, the interviews showed that most of the students did not like the use of Facebook as a learning and communication tool, as well as they mentioned that they did not motivate to get the benefit of Facebook.

5.3 Social Challenges

As I mentioned before, social media is a purely social phenomenon, and it reflects various social and psychological interactions between the individual and the social contexts represented by the community he or she lives in. In the case of this study, I am interested in inquiring and investigating the social aspect of using social media, namely Facebook, Twitter and WhatsApp in their relationship with pedagogy and learning. In the matter of fact, social factors are quite important in the students' use of social media networks, and when I refer to social factors, I actually mean the students' surrounding and environment including classmates, teachers, family members, authorities and so no Twitter

- ***Community beliefs regarding conventional education***

The first challenges concerned *community beliefs regarding conventional education*. The findings show that students were influenced by parents' beliefs

regarding learning. Parents believe that learning should take place in universities or schools and teachers are the source of information and knowledge. In illustration, the first interviewed student S1T commented as follows:

> *S1T: For example, and for myself, if I told my father that I was studying via computer systems, he would not believe that I was actually studying because he would say that studying is either in universities or through books and not with computer systems. I would feel that he is calling me a liar.*
>
> *Interviewer: You can show him this method of learning though.*
>
> *S1T: Yes I would go and show him how I engage with my classmates along with the teacher 's responses of the. But he would say that learning occurs inside the walls of a school where a teacher sort of throws knowledge and the students catch it, adding that this is what we know and what we are accustomed to. So I just said to him "Okay".*

In addition, student S4T has the same opinion regarding to their community beliefs of using social media in education, and he stated that they see formal education is the most reliable and social media aren't considered for educational purposes and he added that:

> *The community believes that 90% of learning comes from the teacher and is transmitted to the students.*

In addition, an interviewed teacher at the college of Education noticed that few students did not participate in Twitter because of their preference of face-to-face learning:

> *When I asked students, to find out the reasons for the lack of participation on Twitter, they told me that they do not know how to use Twitter and they only prefer to study in conventional education, so they were unwilling to use Twitter.*

Student S1T, in addition, mentioned in the interview that some members of Saudi community have negative views towards Twitter because it has negative aspects that might influence users:

> *Some members of our society consider that Twitter and Facebook may have a negative effect on our society. So, they think that [from his point of view] we might learn things harm us, and there is no possibility to learn something useful [from Twitter].*

- ***Social media leading to isolation and introversion.***

The second challenges concerned the belief that *social media leading to isolation and introversion*. Three out of the five of interviewed students argued that extensive use of Twitter may lead to isolation and introversion, even though the students are in one place. In addition, they believed that online communications among community members came at the expense of physical communication. For example, S1T stated:

> *People have changed from what they were like before. The use of Twitter has caused people to isolate themselves from one another, instead relying solely on communicating [using technology] with each other virtually… Society has become more isolated and the people do not meet like they used to, instead opting to meet only once every two months or during celebrations.*

Furthermore, student S4T emphasized that:

> *If it was up to me, I would make the priority of technology only for educational purposes. If you are sitting in a social place with people you will not hear any talk from them. Everyone is busy with his phone. The phone is a gift given to us from Allah [God], but the bad use or misuse turned it from a blessing to a curse.*

5.3.1 Facebook

- ***Community beliefs regarding conventional education***

As with Twitter, *community beliefs regarding conventional education* constituted a challenge. The data analysis shows that three out of the five interviewed students considered that community beliefs are inherited from parents and

imbibed by children, as well as their teacher also emphasized the influence of community beliefs, for example:

> *Society sees that the student needs to learn by conventional methods and this is a problem related to guardians' thoughts. So what do you think about the student? It will be like the level of his father's mind. (S2F).*
>
> *Society does not accept this idea because many students have not experienced this before at any learning stage...and have not got used to the discussion because of traditional education. (T1F).*

In addition, two out of the five interviewed students mentioned that the community holds negative views concerning Facebook and its users. Student S3F, for example, asserted that:

> *Some people do not like the idea of creating an account in Facebook. Society has formed a negative idea about Facebook and there are specific views of those who use Facebook. Why have they formed this idea?*

However, S3F stated a logical argument, that might answer the question presented by the quote above, took into consideration the pros and cons of Facebook:

> *Facebook is used mostly for entertainment. There is no doubt that anything has positive and negative aspects, but it depends on how it is used. A cup can be used to drink water or wine. Anything could be useful or not useful.*

- ***Invitations by strangers***

The next social challenges concerned *invitations by strangers on Facebook* or what can call *lack of privacy*. Student S1F saw the lack of using Facebook to be the result of being invited by strangers, and he stated that:

> *For me, the lack of my use of Facebook is due to several reasons, including being added by strangers on my personal page.*

- ***Inappropriate advertisements, suggestions and content.***

Moreover, Facebook was considered to have *inappropriate advertisements, suggestions and content.* Three out of the five interviewed students complained about Facebook advertisements, suggesting these might prevent its use. In addition, S2F added:

> *Also, there is appearance of indecent images that are inconsistent with the public custom, or atheistic writings. All these have a negative impact on young people.*

In addition, when I interviewed the teacher T1F at the college I asked him about the willingness of Saudi students to learn through social networks, he confirmed that there are religious and cultural factors should consider when applied on Facebook. Because the use of Facebook is forbidden for some students:

> *There are religious and cultural factors…for example, when applied on Facebook [in the ICT module], one of students said that "the use of Facebook is forbidden" and I asked him why? [The student replied] "Because when I log into the page it shows me suggestions that have indecent images". These are some of the religious and cultural factors that face the implementation of Facebook in education. (T1F).*

- ***Isolation and introversion from the community.***

The next issue concerned the use of Facebook *leading to isolation and introversion from the community.* One student considered that the extensive use of social networking might cause isolation and introversion between community members, as in the findings for Twitter. S5F mentioned:

> *Social networks have caused isolation. Sometimes I sit with a person and I talk to him, but I find he spends all his time on his*

mobile – this is negative use. Also, natural [face-to-face] communication between people has become a rarity.

5.3.2 WhatsApp

- ***Isolation and introversion***

The first social challenge was again that *the use of WhatsApp can lead to isolation and introversion*. Student S1W mentioned:

> *Yes, using a social network like WhatsApp has an impact. The first impact is on the [social] meetings. Before, people were sitting and talking [with each other], but now everyone are busy on his mobile.*

- ***The technological gap***

Second was *the technological gap between the community and the university.* S1W commented:

> *There is contradiction between the two parties, the house party is using iPads and laptops, students use everything. But at the university there is nothing except the board and writing with some equipment.*

- ***The community belief about WhatsApp***

The third issue is *the community belief about WhatsApp usages.* Most of the students stated that their community has a different view regarding the purpose of using WhatsApp. They only used it for communication and exchanging information, messages, pictures and videos only, so it is not an educational tool. For example student S1W stated that:

> *…the community here sees that WhatsApp is used as a way of communication and exchanging information, messages, pictures and videos and nothing can be used for learning. (S1W).*

In addition, student S2W, for example noted:

> *I see that it is not used by the community for educational purposes.*

As I mentioned in the methodology chapter teachers unofficially implemented social media in this module for different purposes. But, the teacher T1W in this case demonstrated four factors that prevent application social media in the education are:

> *the lack of teachers' motivation, the evaluation process does not fit with the ICT module nature, the absence of instructional designers at the university and the systems and regulations are inconsistent with the comprehensive application of social networks in education.*

- ***The lack of teachers' motivation***

The teacher T1W believed that the university should provide incentives to teachers to use social networks such as WhatsApp:

> *Teacher need to be motivated [by the university] to use such teaching.*

In addition, he perceived that *the evaluation process does not fit with the ICT module nature, and he* indicated:

> *As I said before, the evaluation process is the most important thing. The evaluation process doesn't fit blended learning. A big part of blended learning is electronic. The hours need to be reduced and replaced by electronic hours, the evaluation process needs to be reviewed to fit the use of social networks, part of the examinations may be electronic and this is better, and so on.*

Likewise, *the absence of instructional designers at the university* was the third factors that mentioned by the teacher T1W. He emphasised the importance of the educational designers' role in designing WhatsApp-based learning:

We are still in need of professional instructional designers to construct educational subjects based on social media.

Moreover, *the systems and regulations are still inconsistent with the comprehensive application of social media in education.* The teacher considered that the university systems did not support the use of social media in education,

5.3.3 Summary of the social and cultural challenges

The data analysis of interviews, I found that there are many social and cultural challenges that may have a direct influence on the use of social media in education. The findings indicated the lake of privacy and invitations by strangers on Facebook. In addition, more than a half of the interviewed students complained about Facebook advertisements, and considered to have inappropriate advertisements, as well as the Saudi students are forbidden to use Facebook because of religious and cultural factors.

Moreover, few students on Facebook considered that the extensive use of social media might cause isolation and introversion between community members, and this issue was applied also for WhatsApp. On the other hand, more than a half students on Twitter thought that the extensive use of social media might cause isolation and introversion.

Furthermore, most of the students on WhatsApp stated that their community has a different view regarding the purpose of using WhatsApp. They only used it for communication and exchanging information, messages, pictures and videos only, so it is not an educational tool. The teacher demonstrated four factors that prevent application social media in the education are: the lack of teachers' motivation by the University, the evaluation process does not fit with the ICT module nature, the absence of instructional designers at the university and the

systems and regulations are inconsistent with the comprehensive application of social media in education.

It noteworthy here to mention that community beliefs regarding the use of social media in education was a common factor that influence implementation social media in the three cases.

5.4 Pedagogical Challenges of Social Media Networks

The interviews revealed many aspects regarding the teachers' as well as students' use of social media, namely Facebook, Twitter and WhatsApp. Apart from the affordances which will be discussed separately in the next chapters, it is important to note some of the constraints that related to the use of social media for educational purposes.

5.4.1 Twitter

- ***The lack of synchronisation on Twitter***

The first of the various pedagogical challenges identified was *the absence of synchronisation on Twitter*. Two out of five interviewed students emphasised the importance of determining time for interaction, which might have an impact on the seriousness of students' participation. S2T reported:

> *I do not see inconvenient except determining the appropriate time for interactions on Twitter. I mean that the best thing is to determine a convenient time for students. Because keeping it open like that might affect the seriousness of students' interaction.*

- ***The reliability of information provided by Twitter***

The second challenge was related to *the reliability of information provided by Twitter.* Student S3T, for illustration, raised this important issue concerning the information presented by students on Twitter:

> *The acquisition of information is better when the teacher provides it. Via Twitter, every student presents his thoughts, whether true or false. But inside the classroom environment, if the student makes a mistake, there will be someone who will correct this information.*

- ***The challenges related to reading the information on Twitter.***

The third aspect was related to *reading the information on Twitter*. One student highlighted that the teacher used Twitter to share educational materials, but he could not ensure that students read it:

> *Certainly, the educational materials would have been received by the student, but the teacher cannot guarantee that that student read it or learned it.*

In line with the above challenges, teacher T1T had the same view (see 6.4.1.2).

- ***Lack of feedback from the teacher***

The fourth challenge was the *lack of receiving feedback from the teacher.* When I asked S3T about his views regarding communication between students and the teacher, he complained about the lack of feedback from the teacher:

> *Sometimes the teacher does not respond to me. Sometimes I send a question about the information and wait for his answer, but I find myself marginalized and I receive no reply from him.*

Teacher T1T, in this regard, told me in the interview that he spends time on Twitter every day and answer some query, but he considered that this insufficient to follow students:

I bear the responsibility for this failure, as I spend almost an hour to an hour and a half a day. I consider this insufficient to follow students on twitter and answer every query.

- ***A pedagogical challenge related to the ICT syllabus***

Finally, the teacher added a pedagogical challenge related to the ICT syllabus. When I asked the teacher about the most important challenges he encountered when he taught this course along with using of Twitter, he replied: “To be honest with you, the syllabus that we teach is very old and it needs to be developed”.

5.4.2 Facebook

- ***Challenges within group work.***

In relation to pedagogical issues, the first concerned *challenges within group work*. Three out of the five of the interviewed students have faced challenges while doing tasks within workgroup. However, they prefer to work individually. When I asked S4F about the distribution of tasks between the group members in completing tasks, he commented as follows:

S4F: No, I did it all by myself.

Interviewer: You did the assignment by yourself? What about the others? What was their role?

S4F: They did not have any role. They presented the final work in the classroom.

As the group did not cooperate, S4F said that he would prefer individual work:

S4F: I would love to have individual work.

Interviewer: Why?

S4F: In order to complete the assignment based on my point of view without interventions.

Interviewer: But these interventions could help.

S4F: If students help you.

- ***The module design***

The second pedagogical challenges concerned *the module design*. Three out of the five of the interviewed students expressed a viewpoint on this issue. For instance, S1F stated:

> *The module activities definitely need to be developed and introduce new activities.*

- ***The reliability of information provided by Facebook.***

The third issue was related to *the reliability of information provided by Facebook.* Student S2F for example mentioned:

> *No accurate information is available on Facebook and it cannot be a source of information because there is no reliable or official source. It is mostly personal pages.*

- **The delay of some students in accomplishing the activities**

In addition, the teacher T1F at the College of Education showed concern about the delay of some students in accomplishing the activities, and he but remarked:

> *Some students missed the deadline without participating on Facebook.*

In the next part the pedagogical challenges of WhatsApp will present.

5.4.3 WhatsApp

- ***Problems with organising of work groups.***

The first pedagogical challenge was the problem of organising work within work groups on WhatsApp. Two out of the five of the interviewed students noted this problem. Student S2W, for example said:

We didn't select a leader, we were [in the group] without distributing the roles.

- ***The lack of effective interaction between the work groups.***

The second challenge was *the lack of effective interaction between the work groups.* Two out of the five of the interviewed students remarked about the low level of effective interaction between the work groups on WhatsApp. When asked about the difficulties faced in the work group, most of them were busy, and he don't have power over them S2W mentioned:

> *Some students are busy, there were six students with me in the group, I talked to one of them he said that he was at the village, I talked to another one he said also that he was at the village, I talked to the third and he said that he was busy, I have been trying to talk to them for a week to coordinate with them, but I am unable to do this. Finally, I remained with one of the students and finished the assignment, but the other students didn't participate with us, because I don't have power over them like the teacher to enforce them to accomplish the work.*

The teacher T1W at the college of Education just attributed this issue to the students' time management problem.

- ***The lack of adequate feedback from teacher***

A further issue was *the lack of adequate feedback from teacher at the college of Education*. Two out of the five of the interviewed students found that feedback from the teacher was not adequate on WhatsApp. S2W commented:

> *But there is not sufficient feedback from the teacher [on WhatsApp].*

In addition, by asking the teacher about the time spent on WhatsApp in this module he confirmed that the time may not be sufficient because the students' needs and expectation are very great, he stated:

> *I am bound to counted hours for the family and counted hours for the management and counted hours for the research. Really, the time may not be sufficient because the needs of the students are very great and their needs are very great, there are also other subjects and obligations. So, we are trying to make a balance between the students' requirements and between the administrative assignments for us. We are still an emerging university and our requirements are very high.*

It is worth mentioning that the teacher was assigned a number of administrative and training work by the university in addition to teaching the ECT course.

- ***Interaction on WhatsApp will not substitute face-to-face interaction***

The next issue concerned *communication between the group members on WhatsApp and face-to-face interaction.* Two out of the five of the interviewed students considered that face-to-face interaction is a crucial aspect of communication, as exemplified in the following exchange:

> *S2W: The last activity accomplished was research [about using social networks in learning], we finished it together when we met in one place in a café shop.*
>
> *Interviewee: Why didn't you use WhatsApp?*
>
> *S2W: We did use it, there was a special group for us on WhatsApp, in addition to meeting outside the university to accomplish the research and those who couldn't join us participated in the group. The most important thing is that every person participates and we gather in one place.*

In addition to this, S3W justified his low interaction based on his preference for the interaction to be face to face:

> *You ask the teacher from behind the picture [device] and this is not right, I prefer to receive the information from a person in front me.*

Moreover, the teacher mentioned in the meetings that the direct interaction process still important:

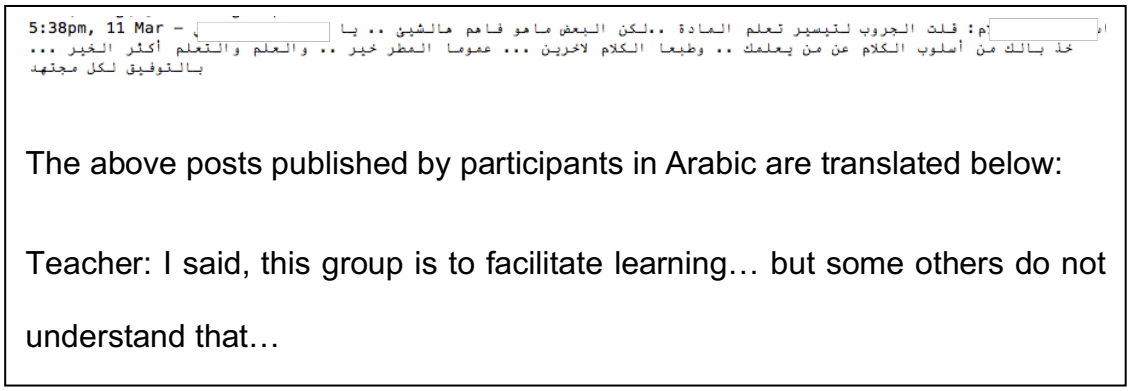
We still need to communicate and interact directly, face to face in the learning process.

- ***The lack of quality and quantity of interaction between the students.***

A further issue was *the lack of quality and quantity of interaction between the students*. Three out of the five of the interviewed students noted the low of quality of interaction on WhatsApp. S1W, for example, commented that:

Yes, there was interaction, but the general conversations were dominant.

The findings of WhatsApp data analysis showed that teacher sometimes reminded students about the purposes of using WhatsApp (see Figure 5.3).


5:38pm, 11 Mar – [redacted] قلت الجروب لتيسير تعلم المادة ..لكن البعض ماهو فاهم هالشين .. يا [redacted]م:
خذ بالك من أسلوب الكلام عن من يعلمك .. وطبعا الكلام لاخرين ... عموما المطر خير .. والعلم والتعلم أكثر الخير ...
بالتوفيق لكل مجتهد

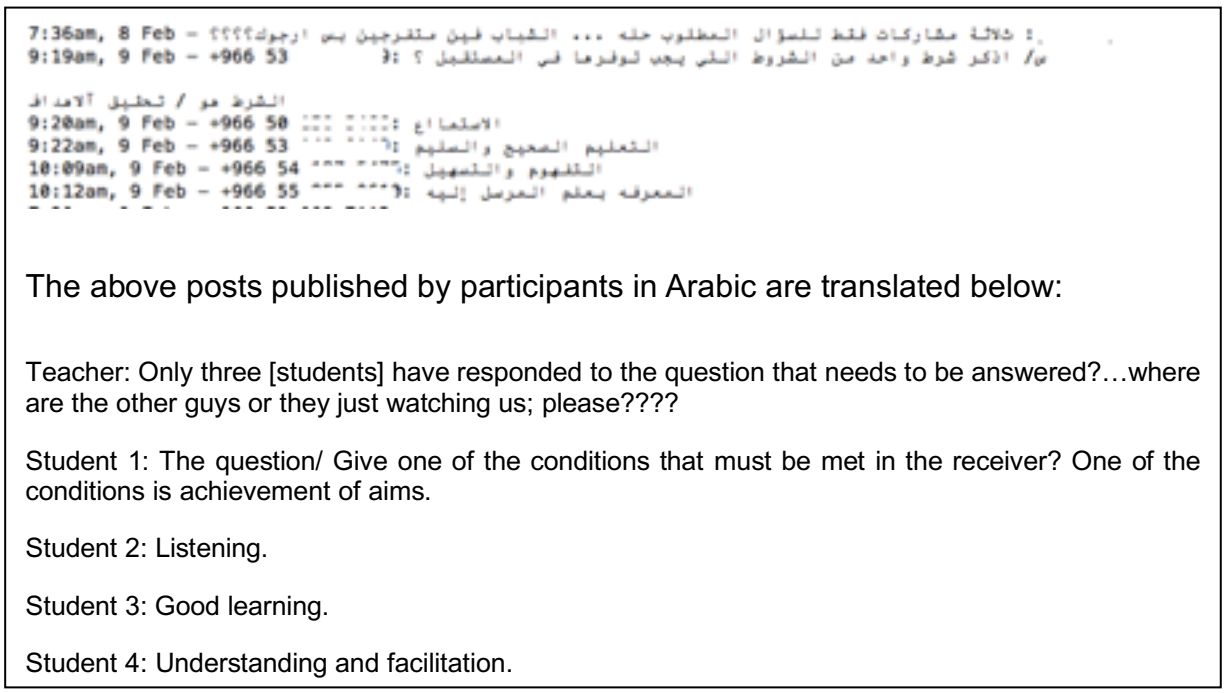
The above posts published by participants in Arabic are translated below:

Teacher: I said, this group is to facilitate learning… but some others do not understand that…

Figure 5.3: An example of teacher instructions.

However, only one student S3W mentioned an important point, namely that some students read the messages only without participating:

The disadvantage, as I have mentioned, is that some of them don't find time, and some of them have some circumstances, and some of them only read the messages without participating on WhatsApp.



The above posts published by participants in Arabic are translated below:

Teacher: Only three [students] have responded to the question that needs to be answered?…where are the other guys or they just watching us; please????

Student 1: The question/ Give one of the conditions that must be met in the receiver? One of the conditions is achievement of aims.

Student 2: Listening.

Student 3: Good learning.

Student 4: Understanding and facilitation.

Figure 5.4: An example of student interaction.

Indeed, as shown in Figure 5.4 , the teacher was disappointed with the level of students' interactions.

- ***Many messages not related to education.***

Likewise, there was *many messages not related to education.* One student S2W noted the problem of sending irrelevant messages on WhatsApp:

> *Some students send sayings and religious teaching or message not related to education.*

The teacher tried to narrow students' messages on WhatsApp to be only educational contributions. The Figure 5.5 exhibited the conversation between the teacher and one of students.

The above posts published by participants in Arabic are translated below:

Student 1: [The student shared a commercial advertisement message about a special offer price for iPhone5S]

Teacher: Excuse me, all, this group is for education only.

Student 2: Oh teacher ok I will not do.

Figure 5.5: An example of irrelevant messages on WhatsApp.

- ***The lack of enriching questions***

One student noted *the lack of* enriching *questions in WhatsApp*. Student S2W commented:

> *I wish non-mandatory [enriching] questions were asked for the students who want to answer… enrichment questions would motivate all the students to participate since if you ask them to answer the questions related to the lesson, they will not participate.*

- ***The module design***

one student, also commented on *the module design*, considering that the usage of WhatsApp was good, but the activities need to be reviewed as well as, the teacher mentioned that the course includes a practical side and needs more time than that allocated:

> *The course needs to be developed in terms of the type of activities and motivating the participating students. (S2W).*
>
> *The course includes a very big practical part and needs more time than that determined. (T1W.).*

5.4.4 Summary of the pedagogical challenges of social media networks

From the data analysis of interviews, I found that there were many pedagogical challenges that may have a direct influence on the usage of Twitter in education. The findings indicated that about half of the interviewed students emphasised on the absence of synchronisation on Twitter. Furthermore, the reliability of information provided by Twitter was a pedagogical challenge. Teacher, in addition, cannot identify the students who saw the tweets on Twitter, so I classified it as a challenge related to reading the information on Twitter. In addition, students sometimes complained about receiving feedback from the teacher. Finally, the teacher added a pedagogical challenge related to the ICT syllabus.

According to the pedagogical challenges of Facebook, the data analysis presented that more than half of the interviewed students have faced challenges while doing tasks within workgroup. However, they prefer to work individually. As well as more than half of the interviewed students expressed that module design was one of challenges. Also, there were other challenges related to the reliability of information provided by Facebook. Finally, the teacher showed concern about the delay of some students in accomplishing the activities,

For the pedagogical challenges related to WhatsApp the findings indicated that more than a half of the interviewed students noted the low of quality of interaction on WhatsApp. While about a half of the interviewed students noted the problem of organising the work within work groups on WhatsApp. Also, about a half of them remarked the low level of effective interaction between the work groups on WhatsApp. As well as, about a half of students found that feedback from the teacher was not adequate on WhatsApp. In addition, about a half of students

considered that face-to-face interaction is a crucial aspect of communication. Moreover, different students in the workgroup indicated that many messages posted on WhatsApp were not related to education. Therefore, teacher sometimes reminded students about the purposes of using WhatsApp. Another student noted the lack of enriching questions and one student, also commented on the module design, considering that the usage of WhatsApp was good, but the activities need to be reviewed.

Teacher in WhatsApp case, as well as, mentioned that the course includes a practical side and needs more time than that allocated. In addition, he confirmed that the time he gave to interact with students may not be sufficient because the students' needs and expectation are very great.

5.5 Technical Challenges of Social Media

The interviews revealed six technical challenges regarding the students' use of social media networks, namely Twitter, Facebook and WhatsApp. It is important to note the technical challenges of using social media which will be of major importance since it help us to comprehend the environment of the use of new technologies for educational purposes.

5.5.1 Twitter

The findings from the data analysis of interviews show that there was one challenge mentioned by students related to the limitation of the number of characters in each tweet.

- ***Challenges related to the 140 characters on Twitter***

Challenges related to the 140 characters on Twitter: all students indicated that the 140 characters rule is the most negative feature of Twitter that needs to be

considered. Student S1T, for example, said that: “In terms of the negative aspects of Twitter, there are only 140 characters, which cause difficulty that needed to be overcome”.

However, two out of five students mentioned two ways that can help students add more than 140 characters. First, they used a computer to type what they want, take a screenshot, then upload it on Twitter as a picture. Alternatively, they suggested using the website that the teacher mentioned in the classroom to add more than 140 characters on Twitter. For illustration student S1T added that:

> *We would type up what we wanted to say on a computer, print screen, then upload it as a picture. Alternatively, we would use the website that the teacher told us about and then send it.*

On the other hand, teacher T1T did not narrate any technical challenges related to Twitter. Therefore, the only technical challenge that emerged from the students’ interviews was the 140-character limitation on Twitter.

5.5.2 Facebook

The findings from the data analysis of interviews showed that there were two challenges mentioned by students namely: the interface design and students’ privacy.

- ***The interface design of Facebook***

When I asked S4F about the interaction in the workgroup to do the module’s tasks, he responded as follows:

> *S4F: The interaction took place in another program.*
>
> *Interviewer: Could you please explain more?*
>
> *S4F: We did not use Facebook, we used WhatsApp.*
>
> *Interviewer: Why WhatsApp instead of Facebook?*

S4F: Because it is faster than Facebook. On Facebook you have to enter your username and password. WhatsApp is faster in the entry process. I mean, when you save time and effort, learning will be better.

This student tried to demonstrate the differences between Facebook and WhatsApp interface making a hint on the importance role that the simplicity of interface design plays in using social media for interaction.

- ***The Students' privacy on Facebook***

Furthermore, there was an issue regarding to the *students' privacy*. From the interviews data analysis, They may have personal accounts I found that one of the students mentioned the students' privacy. Student S2F stated:

S2F: They may have personal accounts, but they do not want any students or teachers to get access to them.

Interviewee: Why is that?

S2F: Some of them may feel that it is a personal account and they do not want anyone to know about it. Because [on Facebook] you can see friends' lists, photo albums, posts and comments.

On the other hand, the teacher T1F did not reported any technical challenges related Facebook. Therefore, the only two technical challenges that revealed from the interviews with the students were *interface design of Facebook* and the *privacy*

5.5.3 WhatsApp

The findings from the data analysis of interviews highlighted that there were three challenges mentioned by students namely: the lack of threaded messages, the students' privacy and receiving a large amount of text messages notifications.

- ***The lack of threaded messages***

WhatsApp did not support threaded messages: the findings shown that one out of five students noticed the problem of messages overlapping respond on WhatsApp. Students S2W commented that:

> *Student S2W: There is a problem noticed by the students which is the overlapping.*
>
> *Interviewer: What do you mean by the messages overlapping?*
>
> *Student S2W: I mean that the messages come sequential, meaning that when the teacher asks the first question, you will find the answers of the students after it, and this is normal thing, but when he asks the second question, you can find that some students still answering the first question.*

- ***The Students' privacy on WhatsApp***

The lack of privacy on WhatsApp: the data analysis demonstrated that one out of five students complained about the privacy in WhatsApp because his personal contact number can be seen by all students. Students S2W mentioned that:

> *At the WhatsApp, the contact number is apparent for all, so, there will be disturbance, like calls from some friends at the time of the exam or out the time of the exam, someone calls you for asking for something. It is true some calls related learning side, but the other call is disturbing.*

- ***Receiving a large amount of text messages notifications***

Receiving a large amount of text messages notifications: WhatsApp users resaved messages notifications from other students, but this feature was sometimes considered annoying". Student S3W noted that:

> *among the disadvantages is the large number of messages notifications from the group, so I make the alarming silent.*

However, the teacher T1W did not stated any technical challenges related WhatsApp. Therefore, students reported in the interviews three challenges as follow WhatsApp did not support threaded messages, privacy issue, and notifications messages.

5.5.4 Summary of the technical challenges of social media

According to data analysis of the interviews, I found that that the 140 characters was the most negative features of Twitter that need to be considered. On the other hand, the teacher did not narrate any technical challenges.

According to Facebook; the students noted challenges related to the interface design and the students' privacy. WhatsApp, in addition, did not support threaded messages, where the respond's messages were overlapping. Also, the data analysis displayed that one out of five students complained about the privacy on WhatsApp because his personal contact number can be seen by all students. As well as receiving a large amount of text messages notifications was sometimes considered annoying.

5.6 Summary of the Chapter

This chapter was devoted to the inquiry and the investigation of the aspects of students' and teachers' use of social media networks, namely Twitter, Facebook and WhatsApp, for educational purposes. According to the valuable and relevant data I obtained from the semi-structured interviews and social media messages from both students and teachers at the College of Education, four different challenges were found in terms of the use of social media for learning and teaching purposes which are personal, social, pedagogical and technical challenges.

The common challenges found across the three cases were the lack of previous experience of the use of social media for educational purposes, family commitment and their community's belief regarding use social media in education.

Based on the information in this chapter, the next chapter will be devoted to the analysis of the data obtained from the semi-structured interviews, classroom observation and text analysis of social media, namely, Twitter, Facebook and WhatsApp, with the aim of exploring students' and teachers' perception of pedagogical affordances of social media in the field of education at the College of Education at Ha'il University.

6 CHAPTER SIX: FINDINGS PART TWO

6.1 Introduction

This chapter presents the findings of the data collection conducted through classroom observations, text analysis of Twitter messages and semi-structured interviews with teachers and students enrolled at the College of Education at the University of Ha'il. I present the views of students and teachers in terms of the affordances provided by Twitter. Accordingly, and as part of the sampling strategy, a teacher from the College of Education as well as five students are taken into consideration. In this sense, various affordances of social media technology, specifically, Twitter are demonstrated, including technical, and pedagogical affordances, and other key issues that arose from this use such as the notion of digital environment.

6.2 The Potential Technical Affordances of Twitter

Firstly, the findings of data analysis showed that all students in this module have experience with dealing with Twitter before this module. This was evidently showed by the data analysis of classroom observations and interviews, where students exhibited a knowledge of interacting with the Twitter interface in/ out the classroom. However, the students' responses to the interview questions about the technical affordances were after they had been involved in using Twitter in this course. This theme, however, is divided into subthemes, namely: the affordances of the Twitter interface and open and closed affordances.

6.2.1 The technical affordances of Twitter interface

The sub-theme of *technical affordances of the Twitter interface* consists of eight categories: (1) Ease of creating an account, (2) Twitter interface, (3) the 140-

character in one tweet (4) following buttons (5) favourite and retweet buttons (6) hashtag buttons (7) exchanging private messages and (8) inserting multimedia. These aspects are addressed in detail with illustrative comments from the teacher and students, classroom observation and Twitter messages.

- ***Creating an account***

The first technical affordance of the Twitter interface is *the ease of creating an account.* The findings of data analysis showed that three out of five of the interviewed students prefer dealing with simple applications specifically when creating an account, and twitter offers that. Student S3T, for example, indicated that:

> *In the beginning the teacher asked us that, what do you think, do you want use Facebook or Twitter? Most of suggestions were with the use of Twitter because the ease of creating account. In contrast, Facebook has some difficulties.*

- ***The simplicity of Twitter interface***

The simplicity of the Twitter interface operation is the second technical affordance of Twitter. The interface of an application plays a crucial role in terms of usage. Four out of five of the interviewed students said that the simplicity of Twitter interface encourages them to use it. Student S2T, for illustration, emphasised that unexperienced users can use Twitter without any effort. In the interview, he commented:

> *The first thing about Twitter is the simplicity of the interface. The Twitter interface is easy to use and it is possible for an inexperienced person to use it. Indeed, people want anything easy.*

- ***Following buttons***

All students, in addition, agreed that if a student is interested in any subject, or other users on Twitter, they can simply press the following button and then receive any tweets from that account. S4T, for example, stated: “I follow graphic design specialists on Twitter (Photoshop designers)”.

- ***Hashtag buttons***

For using hashtags, three out of five of the interviewed students reported that they used hashtags, which is the most popular feature on Twitter that attracts users to find news. S2T, for example, stated:

> *Any news within the country you will know about it through Twitter, this the most important advantage [features] of it. Because when something happens, you will instantly find a hashtag related to this news on Twitter, faster than the official news agencies.*

- ***The 140-character limit***

Additionally, three out of five of the interviewed students, remarked that Twitter allows only 140 characters in each tweet. This word limitation could be seen as a useful or negative feature. S1T, for example, viewed it as negative:

> *In terms of the negative aspects of Twitter, there are only 140 characters, which causes difficulties that need to be overcome. The teacher told us about a program that can be used or linked with Twitter to add more than 140 characters.*

In contrast, S4T viewed it as a useful feature:

> *Despite the drawbacks of Twitter, that you cannot add long sentences, Twitter drives us to learn how to shorten the sentence as much as possible.*

- ***Favourite and retweet buttons***

Three out of five of the interviewed students, and their teacher also, commented on the favourite and retweet buttons, which are used by students and the teacher to save tweets in order to find them easily. S2T, for illustration, mentioned:

> *I use favourite button or retweet information that I find in Twitter. So, if I want to see it again I will find it on my favorites list. I mean I do not need to save it, or store it in a separate memory.*

In addition, the teacher stated:

> *If I or students like an idea in a tweet we use the favourite or retweet button in order to express our likes or agree with this view.*

From online observation, I found many examples of tweets that were retweeted or favourited, as shown in Figure 6.1.

Figure 6.1: An example of favourite and retweet on Twitter.

The above posts published by participants in Arabic are translated below:

> *@[teacher]: what is the difference between images and models in terms of the effects on learning? For example, what is the*

difference between the image of the Kaaba and the model of the Kaaba?

@[student]: the difference is that the models have more depth than images, because the explanation images is a bit complex… [the teacher favourited and re-tweeted this tweet].

- ***Exchanging private messages:***

Two students out of five mentioned that Twitter was used to communicate with others by sending private messages. S2T used it to communicate with people on Twitter and noted that: “Also, the features of Twitter, you can follow well-known people and communicate with them through private messages”.

In addition, students used the private message function to contact the teacher asynchronously. For example, student S4T communicated with the teacher to request in advance to be excused from a lecture by sending a private message as shown in Figure 6.2.

Figure 6.2: An example of a private message.

The above posts published by participants in Arabic are translated below:

@[Student]: Hi. I had circumstance caused me absent from today's lecture.

@[Student]: Is there a lecture next week or not.

@[Teacher] There is no problem for this absence as long as you attend regularly. Yes, there is a lecture next week. Good luck.

@[Student] For all... May Allah reward you.

- ***Inserting multimedia in Twitter:***

On Twitter, the students and the teacher insert some pictures and videos linked to YouTube to summarize information. As student S4T pointed out: “You can present information without words or writing, just by photo or video”. In addition, the teacher mentioned: “The ease of posting video links, audio, images, and writing comments are the technical aspects of Twitter “. From Twitter text analysis, it was found that both students and the teacher used Twitter to upload videos links from YouTube and pictures (see Figure 6.3 and Figure 6.4). The teacher, for instance, brought his personal data-show projector in the classroom and asked one of the students to use his personal Internet access in order to present a video clip from YouTube. This video presented the educational experience of using educational technology in Qatar. The teacher asked students in the classroom to use Twitter and reflect on this video. It is notable that while playing the video in the classroom, the sound was not clear because of the weakness of the Internet signal, which is one of the contextual challenges that the teacher and students faced in using Twitter in this module. Therefore, students took advantage of the Twitter affordance to play this video and post their comments outside the classroom.

Figure 6.3: An example of uploading multimedia on Twitter.

The above posts published by participants in Arabic are translated below:

> *@[teacher]: Video illustrating the importance of using educational technology in the educational process. Youtube.com/watch?v=5sd7Ca… it was presented in the previous lecture, but the sound was not clear.*

Figure 6.4: An example of uploading multimedia on Twitter.

The above posts published by participants in Arabic are translated below:

> *@[student] practical experience is better because it develops skill with the information*
>
> *@[teacher]: [post a picture].*

The findings of the technical affordances of Twitter interface indicated that four out of five of the interviewed students mentioned that the simplicity of the Twitter interface encourages them to use it. In addition, three out of five students prefer to deal with simple applications, especially when creating accounts on social media. Furthermore, they used hashtags, which was seen as the most popular feature of Twitter that attracts users to find news. In addition, they remarked that Twitter allows only 140 characters in each tweet, which may be considered as a positive or negative feature. Also, they commented with their teacher on the favourite and retweet buttons, which were used to save tweets in order to find them easily.

6.2.2 Open and closed affordances

Twitter has technical affordances that allow the users to control the account settings, whereby they can make it open to everyone to post comments on tweets or following the account. Conversely, the account can also be closed to a specific category of users. In the following sections, findings from the data analysis regarding open and close account affordances are presented, namely, (1) the ease of following people on Twitter in open accounts, (2) posting comments in open accounts and (3) creating a closed group.

- ***The ease of following people on Twitter in open accounts***

The first affordance was that the ease of following people on Twitter in open accounts: all students agreed that if student is interested in any subjects or

twitters they can simply press follow button and receive any tweets from them. Student S4T for illustration stated that:

> *I follow graphic design specialists on Twitter, Photoshop designers.*

In addition, users can post comments in open accounts. Open accounts on Twitter offers a potential to leave comments on any tweet without any restrictions. For instance, student S2T mentioned that:

> *Also the features of Twitter; you can follow well-known people and communicate with them through private messages or by placing question or comment on their tweet.*

The option of creating closed groups was considered as another affordance of Twitter, in which followers can take part in this group after being added by the account holder. The aim of creating the private group is to prevent others accessing tweets, as well as preventing others from sharing any unrelated information. For example, Teacher T1 remarked:

> *I closed the module's account on Twitter for students to prevent and keep others away from seeing our tweets, or adding unrelated information.*

From these technical affordances that mentioned in the findings of data analysis, students can interact with each other as well as their teacher to complete the module tasks within closed account. In ICT module account on Twitter, both students and teacher benefit from its technical affordances in terms of creating an account, dealing with Twitter interface, posting a tweet that only contains 140-characters, following the teacher and other students, using the favorite and retweet buttons in order to filtering the information and uploading multimedia in order support their learning and teaching.

The next theme is the potential pedagogical affordances of Twitter from students' and teacher's views are demonstrated in detail with illustrations from interviews, classroom observation and twitter messages.

6.3 The Potential Pedagogical Affordances of Twitter

This theme is divided into subthemes, namely: (1) social construction of knowledge, (2) reflection, (3) connectivity between students/ teacher and social presence and (4) collaborative learning. In what follows, these subthemes are presented in detail with examples from the teacher's and students' comments in the interviews, Twitter posts and classroom observations.

6.3.1 Social construction of knowledge

The data analysis revealed that students were socially constructing the knowledge related to the ICT module on Twitter. All the students of this group said that ICT content, such as images, questions, lecture notes and links, were posted on Twitter by the teacher or other group members, which was also available to review when needed. Students benefited from that to review and print out the ICT module content. As an example, S3T indicated:

> *In Twitter the teacher uploaded the lecture notes by tweeting links and he explained some important points. The lecture is in the link, just click on the link, print it out and then I have the lesson [content].*

From Twitter messages analysis, I found that teacher used Twitter to upload the lecture note that were presented on the classroom as a link. Figure 6.5 presents an example of ICT content.

Figure 6.5: An example of shearing content on Twitter.

The above posts published by participants in Arabic are translated below:

> *@[Teacher]: Peace be upon you, my fellow students, in the attachment the last weeks' lecture notes about educational portfolios (definition, features, and its components) gulfp.com/?dty9sq*

Additionally, the teacher used Twitter as a platform to share resources with students and asked them to respond to his questions. The teacher benefited from this affordance to encourage students to engage in digital discussions in order to comprehend information. Three out of the five students viewed the sharing of resources on Twitter helped them to embed information. For instance, student S2T highlighted the following:

> *The teacher presented some multimedia in the classroom by data show projector and then he uploaded it on Twitter to discuss. This way helped me to understand the information.*

Furthermore, the teacher used Twitter uploaded new materials related to the course to support students' learning. He mentioned that:

> *Video clips or links were posted on Twitter for students to enhance their learning process.*

In the classroom, the teacher taught a subject entitled 'Educational Communication' and provided the social networks as an example of a communication aid. He presented the types of social networks, their widespread use for communication and the chance of using them for educational purposes. Then he stated that this subject would be discussed on Twitter in more detail. From data analysis of Twitter messages, I found that the teacher shared materials related to the course as he mentioned in the classroom. An example of sharing resources on Twitter is presented in Figure 6.6.

Figure 6.6: An example of sharing resources on Twitter.

The above posts published by participants in Arabic are translated below:

> *@[Teacher]: this link illustrates examples of social networks, and also which one is more popular. Ebizmba.com/articles…*

- **Enriching information:**

Students benefited from the interaction to share information. They mentioned that during interaction on Twitter, some students share new materials related to the

course that might help them to get more information about the subject studied in the classroom. For example, S2T declared:

> *In Twitter we learn from each other and exchange experience. Because some students have [more] information … and [they] share it with others [students] during the discussion [on Twitter].*

The data analysis of Twitter messages revealed that students shared some relevant resources that might support other students' learning. When students were discussing the importance of using educational technology, one of *the* students posted a tweet including two links from YouTube about e-learning (see Figure 6.7).

Figure 6.7: An example of sharing relevant resources on Twitter.

The above posts published by participants in Arabic are translated below:

> *@[Student]: About e-learning. An interview with Dr. Mohamed Al-sheraikh on Al-Watan TV Channel. 1. Youtu.be/jlisbwy5_Iw. 2. Youtu.be/btovlv8lzrk.*

6.3.2 Reflection

The findings showed that students on this course reflected on other students' work during the presentation in class. These tasks were either developing an

educational resource based on the instructional design principles or writing assignments related to the use of social media in education. As planned by the teacher, the student groups were obliged to interact with each other on Twitter to choose the topic and plane their work regarding to these activities. After completing these tasks, the teacher asked each group to present it in the classroom in order to enable other students to reflect or giving feedback by using Twitter.

The data analysis of classroom observations showed that the teacher and students reflected on the groups' presentations during the lecture in the computer lab. However, in some occasion they encountered internet access problems. In addition, the data analysis of Twitter messages demonstrated the students' and teacher's reflections. For example, a student commented on an article about the use of Facebook in education as follows:

> *@Student: Thank you brother (....) for your presentation. But, I wish you gave an example of using Facebook in education.*

Most of the reflections posted by students including an expression of gratitude or appreciation of the group presentation, which were nether critical nor in depth, such as: *"@Student: Thank you"*; "*@Student: Good presentation"*; *"@Student: May Allah reward you well".* Thus, in many occasions, the teacher in the classroom and on Twitter advised students to be more critical during these activities.

In addition, at the end of the term, the teacher encouraged students to reflect on the use of Twitter in this module. A student, for example, on Twitter reflected:

> *@Student: I think it [Twitter] was successful to some extent… But online [video conference or video calling] or direct contact will be more effective in delivering information. [Sequel idea in*

the second Tweet] or video… Twitter is based on reading [text-based] more than watching and listening… with time you will get bored of reading and this reduces the interaction.

Another student reflected on the use of video clips in the classroom, expressing his feelings about the lecture, and he tweeted:

@Student :Frankly, it was a fantastic idea. The use of video in the previous lecture led me to interact with my brothers [students]. I hope the next lecture to be enjoyable.

6.3.3 Connectivity between students/ teacher and social presence

The interviews and observation data revealed that Twitter facilitated the communication between students and the teacher in this module. Students showed awareness of the technical affordances of Twitter, as mentioned earlier, which might lead them to perceive its pedagogical affordances as it provided an environment for student and teacher to be connected with each other. The students' and teacher's social presence, emerged from their tweets on Twitter, promoting constant connection and forming good relationships to meet the lesson objectives. To identify the indicators of social presence messages, I used the community of inquiry framework (Garrison, 2003) to analyse students and teacher's inputs on Twitter. These showed that there was a social presence in social networks comprising the following: *interpersonal communication*, *open communication*, and *cohesion of communication.*

6.3.3.1 The social presence on Twitter

The social presence that emerged from the data analysis of Twitter messages are classified into three phases namely the *interpersonal communication*, *open communication*, and *cohesion of communication. Each indicator presented with examples from Twitter messages.*

- ***Interpersonal communication.***

The data revealed that the tweets exchanged among the participants (students and teacher) on Twitter enhanced interpersonal communication. These tweets can be classified into six indicators, as follows: (1) expressing emotions, (2) use of unconventional expressions to express emotion, (3) expressing value, (4) use of religious references and expressions, (5) self-disclosure and (6) use of humour.

For instance, during a group's presentation in the classroom, a student expressed his emotions by posting *"@Student: I hope no one gets bothered by me. The presentation is boring, it is only a list of information"*. The teacher, in addition, commented "@Teacher: Moreover, students and teacher attempted to use unconventional expressions to express their emotions through the use of punctuation (e.g. !!!! or ???) and emojis (e.g. 👍or😄). In addition, students and teacher used repeated characters to express their emotions. For example, a student commented on a presentation to express his pleasure, posting*"@Student: good, your presentation it was veeeery interesting".* Moreover, some tweets included the expression of value towards other students. As an example, a group leader posted a tweet to the group members, stating*"@Student: I hope all group members work seriously in the activity. Do not postpone today's work to tomorrow*". Furthermore, students exchanged religious references and expressions in some tweets promoting interpersonal communication, for example using verses from the Quran, especially on Fridays, or using phrases such as "*Bless our Prophet"*, *"God bless you"* and *"God reward you"*. Furthermore, a number of students presented themselves on Twitter by sharing some of their previous experience. Such self-disclosure is clearly

presented in this tweet*: "@Student: I had an experience of using Twitter last year. But not in this way".* Finally, interpersonal communication' took place on Twitter through the use of *humour.* Students on some occasions used the smile emoji "😄" or "hhhhh" to express emotions that could not be presented through text and a few jokes were also found in some tweets.

- ***Open communication***

The data showed that the tweets exchanged among the participants (students and teacher) on Twitter enriched open communication, which can be classified into eight indicators, as follows: continuing a thread, referring explicitly to others' messages, asking questions, complimenting and expressing appreciation, making suggestions, expressing disagreement, expressing agreement in words and expressing agreement using favourite or retweet. Each of these is illustrated respectively as follows:

> *@Student: @Teacher, yes, the social network can be used in this regard.*
>
> *@Student: I think what [name of the student] mentioned was good. We put the question slides separate from the information.*
>
> *@Student: How many slides are we going to use.*
>
> *@Student: Thank you [name of teacher or student], @Student: Thank you, good presentation.*
>
> *@Student: I wish the information demonstrated in each slide is less than that, in order to be able to read from the slides.*
>
> *@Student: No, because it might be there...*
>
> *@Student: Yes, I think it is appropriate…, @Student: I agree with you…*

- ***Cohesion of communication***

The tweets exchanged among the participants (students and teacher) also enriched the cohesion of communication classified into eight indicators, as follows: vocatives, addressing or referring to the group using inclusive pronouns, phatics, salutations and greetings, social sharing, course reflection, gratitude, hopes and wishes, inviting other students, and using some local cultural expressions. These indicators are presented respectively below:

Vocatives: Students used other students' names or the teacher's name in some tweets *(e.g. Mohammed, Khalid, Abdulrahman…etc.)* to identify the person they wanted to talk with or the person whose tweet they wanted to comment on.

- ***Addressing or referring to the group using inclusive pronouns***

The use of pronouns (we, our, us) emerged in the students' tweets. These inclusive pronouns tended to be used within the groups when they were developing an educational resource based on the instructional design principles or determining the subject for the assignment.

Moreover, the findings showed that students used phrases related to phatics, salutations and greetings. For, example, students used certain words (e.g. May the *peace, mercy and blessings of God be upon you, Hi…, Hello*) to start their tweets.

In addition, students on Twitter attempt to share some information that are not related to the education. For example, a student in one of his tweets talking about the weather in recent days and he posted that: *"@Student: Today, Masha'Allah [God willing], is heavy rain"*.

Furthermore, the students maintained the cohesion of communication through reflecting on the course, as already addressed. For instance, after the teacher asked a question about the use of Twitter in the module, a student reflected "*@Student: [The use of Twitter in this module] is somewhat a good method but...*"

In addition, gratitude, hopes and wishes were noticeable in students' tweets in this module to express their feelings towards others' work. For example, common expressions included *"@Student: Thanks."*; *"@Student: May Allah reward you well, my teacher"*; *"@Student: Good luck"*.

In addition, students sometimes invited others from the same group to complete the tasks together (developing an educational resource based on the instructional design principles and writing assignments), or to present their generosity inherited from their local culture. For instance, a student invited his colleague into his family home, posting *"@Student: But what do you think. Come to my house tonight to drink a coffee and complete our talk."*

Students also exchanged some local cultural expressions, that are difficult to find synonyms in English language, which show a close relationship between students or with their teacher. This is an important indicator found in tweets promoting the cohesion of communication in the social presence.

In addition, the social presence of the teacher on Twitter was consistent with the students' social presence, represented by interpersonal communication, open communication and the cohesion of communication. The social presence of the teacher reinforced students' beliefs in the use of Twitter in this module. They believed that Twitter contributed to facilitating communication with the teacher, saving time and effort, and they received academic support, personal support

and feedback. This in turn helped to form a good relationship between teacher and students.

6.3.3.2 Twitter facilitated communication with the teacher

Three out of five of the interviewed students in this study reported that communication with faculty became more easier and they can communicate with them from home. For example, S4T stated:

> *In Twitter, I am able to communicate easily with the teacher via Twitter. At home I can ask the teacher like I was in the classroom.*

In addition, the use of Twitter as a communication platform saved students' time shuttling between home and the university to ask questions or request support from faculty. S1T, for instance, indicated:

> *Personally, I like this method. It saves my time. [I use Twitter] instead of going from my home to university to see the teacher.*

However, despite the teacher effort in this module, but he concerned about the time spent on replying to students' posts and he mentioned:

> *I spent almost an hour to an hour and a half a day. I know this time is not enough to monitoring students on Twitter and responding to all queries.*

6.3.3.3 Providing academic support, personal support and feedback

Four out of five students in these group emphasized that they received academic support, advice and feedback from the teacher during this module on Twitter. When I asked student S1T what kind of support the teacher offered to complete the course activities, he replied:

> *The first thing was he provided a template for us to follow and he helped us use this template during the design phase. The teacher was always available [on Twitter] so if a student wants an advice or if he want anything else, he would be there with us*

on Twitter. We, also, have his email, mobile phone number and everything.

In addition, the teacher shared some students' questions and his replies with other students in the classroom so that all students could benefit. S2T mentioned:

On Twitter, the teacher interacted with us and answered our questions and he presented these questions in the lecture so that everyone benefits.

An example of teacher feedback obtained on Twitter is shown in Figure 6.8.

Figure 6.8: An example of providing feedback on Twitter.

The above posts published by participants in Arabic are translated below:

@[teacher]: thank you. Could you upload example of these resources based on your specialization as a link or images.

@[student]: for example, explanation of doing Wudoo by images. Said.net/rasael/ wadoo. In addition, explanation of doing Wudoo by video. Youtu.be/ghgbbxhxisk

6.3.3.4 Forming good relationships between students and the teacher

The data revealed that the students' and teacher's social presence contributed to forming good relationships among the participants. Such relationships, particularly between the teacher and students, was new for the students

compared to what they were used to. The relationships between the students and teachers on other modules are more formal, as mentioned by students in the interviews. However, in this module they felt that the teacher became a member of their community and they could deal with him as a colleague. For example, student S2T emphasized that the ease of communication between students and teachers helped forge good relationships:

> *S2T: The teacher gave us the opportunity to interact in the classroom or on Twitter at any time. I can say that the interaction was excellent for me.*
>
> *Interviewer: Why?*
>
> *S2T: Because I benefited from interaction [on Twitter] and I can ask him about anything. I can say that the relationship between us exceeded the relationship in the classroom.*

This was consistent with the aim of using Twitter in this module, as noted by the teacher: *"Twitter has been added as an environment to communicate personally between students or with me*".

6.3.4 Collaborative learning and the teacher's teaching presence

The students used Twitter as an environment for collaborative learning. The data analysis of Twitter messages showed that the teacher played a crucial role in establishing and maintaining the interaction within groups works and promoting students' cognitive presence on Twitter. Furthermore, students perceived the technical affordances of Twitter in that it offered an environment for them to engage in collaboration with the group members.

6.3.4.1 Establishing the works groups to complete tasks

On the one hand, the data showed that the teacher put effort into the instructional design and organization through setting the curriculum, designing methods,

establishing time parameters and utilizing the medium effectively to facilitate cooperation among students. Initially, the teacher divided students into groups, each comprising five students, in order to accomplish the collective activities. In the classroom and on Twitter, the teacher emphasized the aim of using Twitter. For example, the teacher posted in the Twitter module account *"@Teacher: I would like you to work with your colleagues to develop an educational resource based on the instructional design principles".* Here the teacher not only provided the goal of participation on Twitter based on what had been studied, but also gave an instruction on how to complete the task. Furthermore, the teacher used Twitter to inform students of the task deadline. For example, the teacher posted that on Twitter: *"@Teacher: Next week is the deadline to send the educational resource".* In addition, the teacher in Twitter encouraged students to support their participations with evidences. For instance, the teacher commented on a student tweet and he posted that: "@Teacher: What is your reference to say that".

On the other hand, students perceived the technical affordances of Twitter in that it offered an environment for them to engage in collaborative learning with their group members. As mentioned above, the teacher asked students to work within working groups on Twitter to complete the module tasks (developing an educational resource based on the instructional design principles and writing assignments). In this context, three students out of five pointed out that Twitter is a good environment to work within groups to complete the module tasks. For instance, student S3T mentioned:

> *The good thing with using Twitter was that we were able to work within the group. We worked within a group set by the teacher to do the tasks.*

The teacher divided students into groups to work collaboratively on Twitter to complete the tasks. He mentioned that this could help students to find different ideas; and he stated:

> *I asked the students to use Twitter to do the activities within groups, I expected that this method would help them to get a variety of ideas before reaching the main goal.*

In addition, to benefit from the working groups, the teacher encouraged each group to work collaboratively to complete the compulsory tasks. For illustration, student S1T mentioned:

> *The teacher asked us to complete tasks and present it [as a link] on Twitter.*

In addition, student S2T added:

> *Students within the group benefited from each other in the discussion through presenting thoughts. In addition, it is possible that some of the students had a different point of view on the subject that we discussed, which is different from the others, I mean, we all complement each other.*

6.3.4.2 Organizing work in groups to complete tasks

To achieve the group aims, students organized their work within their groups and they chose a leader to organize the work and divide responsibilities and time between students. The students said that the interaction with the group members on Twitter helped them to complete the activity and reach agreed-upon information. S1T commented:

> *The students who I worked with selected one of us to be a group leader to guide us. However, I believe that if we did not choose a group leader, then we would not have accomplished the tasks very easily because he helped and guided us, he divided responsibilities and time between us and so I praise Allah that we finished the task.*

S2T agreed:

> *One student was the head of the group and his role was to divide tasks and record different views in order to configure one idea that we wanted to reach.*

However, regarding communication on Twitter in doing the tasks, student S1T asserted that he sometimes communicated with the group members face-to-face to complete the tasks (*developing educational resource based on the instructional design principles and writing assignments*):

> *The teacher emphasized that we should discuss things on Twitter, but we needed to meet outside of Twitter…because we would come up with something good.*

6.4 Benefits of Using Twitter in Education

This theme is divided into subthemes, namely: (1) online discussion (2) the continuity of learning outside the classroom, (3) improving students' learning, and (4) the influence of Twitter on students' characteristics. In what follows, these subthemes are presented in detail with examples of comments from the teacher and students, Twitter posts and classroom observation.

6.4.1 Online discussion and students' cognitive presence

The interviews and observation data revealed evidence of students' digital engagement in online discussions on Twitter. Students, as mentioned earlier, showed awareness of the technical affordances of Twitter, which led them to perceive its pedagogical affordances.

The use of Twitter provides a space for digital interaction between students and the teacher as well. In addition, it was used to achieve the lesson objectives. Therefore, students need to demonstrate the cognitive presence in their posts on Twitter.

6.4.1.1 The cognitive presence on Twitter

In order to identify the indicators of cognitive presence, I used the community of inquiry framework (Garrison, 2003) to analyse students' inputs on Twitter. The cognitive presence in the interaction is outlined through the following four phases: triggering, exploration, integration and resolution.

- ***Triggering phase***

Based on the community of inquiry framework, this phase consists of recognizing problem and puzzlement indicators. Students in this phase recognized problems through conceptualizing and exploring problems. For example, a student on Twitter asked other students in the same group about the task setup by the teacher:

> *@Student: The teacher today asked us to start to create an educational resource based on the instructional design models [Continued his message in the second tweet] What are the first steps? Anyone have any idea.*

In addition, some students facing problems (puzzlement) in understanding some of the concepts related the task used Twitter to post their questions to gain clarification of ambiguous concepts. For example, a student asked his colleagues about one of the instructional design steps, posting:

> *@Student (within a group): What is the meaning of analysing the students' needs.*

- ***Exploration phase***

This phase was represented by three indicators: divergence information exchange, brainstorming and suggestions. Categories that emerged from the students' online discussions on Twitter included *sharing previous experience*,

sharing own opinion, *giving different ideas* and *giving own suggestions*. The next quotations present illustrations of these categories respectively:

> *@Student (within a group): In high school I used a tutorial CD. It is possible to benefit from it in designing the educational resource.*

This illustrates the student sharing previous experience that may help the group in developing an educational resource based on the instructional design principles.

> *@Student [in the questioning and answering tasks]: I think, and I can assure you that in the first application [of using social networking in education] we will face some difficulties that must overcome if we want to provide meaningful educational methods.*
>
> *@Student [In the development of an educational source task]: I think the primary school mathematics [curriculum] is a more simple and convenient subject.*

Sharing own opinion is another example of the exploration phase in relation to cognitive presence. For example, the students in the quotations above presented their opinions when they were responding to the teacher's questions and also during developing an educational resource based on the instructional design principles in team work group.

> *@Student (in the questioning and answering tasks): Yes.... it provides a good environment, where the learner feels fully comfortable [on social media]. [Continued his idea in the second tweet] and ease of access to information, and [provides different forms of] examples… video or photos. Saving a lot of money spent on classrooms.*

In addition, students used Twitter to reply to the teacher's questions. The previous quotation shows the student brainstorming to provide different ideas about the benefits of using social media in education.

> *@Student (within a group): Let's focus on a single topic…, multiplication, for example.*

Here the student made his own suggestion for developing an educational resource based on the instructional design principles. He tried to advise the group members to choose a specific topic in order to facilitate the development of the educational resource.

- ***Integration phase***

As mentioned in the community of inquiry framework, this phase comprises convergence, synthesis and solution indicators. The students' convergence inputs can be categorized into filtering information, integrating information, offering messages of agreement by word, offering messages of agreement by retweet or favourite the tweets and summarizing posts.

Students used the technical affordances of Twitter to filter information and offer messages of agreement. They used the favourite and retweet icons to highlight important messages or present their agreement. In addition, students in online discussions offered messages of agreement, such as: *"@Student: Yes…"*,"*@Student: Yes, it can be that*…","*@Student: I agree with you*".

In addition, the data analysis showed the integration of information from students' posts to expand other students' ideas, comments or answers in order to derive the concepts. For example, a student on Twitter added more information to his colleague's answer, posting:

> *@Student: In addition, it [social media] allows a person [students] to improve his information at any time, it does not need to be, for example, in the lecture.*

Moreover, the data analysis showed that some of the students' inputs included summaries of other students' posts. For illustration, a student tried to give a summary of what has been discussed on Twitter about the most important obstacles to using social networks in education:

> *@Student: So, we can confine the most important obstacles [of using social networking in education]. First the community acceptance, second students' experience.*

In addition, the data analysis showed the students synthesizing information or ideas through building on others' ideas or providing a rationale or justification. For example, when a group was preparing to design an educational resource based on the instructional design principles, a student suggested adding sounds (building on others' ideas) in the resource and commented:

> *@Student: We can also add sounds in order to foster the correct answer.*

Furthermore, providing a rationale or justification was found when students wanted to answer questions or persuade other students or the teacher on Twitter. For example, a student replied to the teacher's question about the possibility of using social networks in education:

> *@Student: Yes, it can be. Because the technological advances nowadays offer instant delivery of any events, and this saves the effort.*

The last phase of cognitive presence that emerged from analysing students' inputs in online discussions was *resolution*. The resolution phase consists of three main indicators, as follows: *applying ideas*, *testing the work* and *defending*. Students used the ideas collected from online discussions to complete the tasks. For example, a group leader, after finishing the outline of the educational

resource (based on the instructional design principles) posted a tweet to the other members, mentioning that they were ready to develop the resource:

> *@Student [group leader]: Thank you, everything is ready now to do the task.*

Then, when the tasks (developing an educational resource based on the instructional design principles and writing assignments) are completed, the works groups presented it in the classroom in order to other students and teacher commenting or giving feedback on Twitter. For example, a student sent a comment posted on Twitter during a presentation in the classroom including his opinion on using sound in an educational resource, he sent a tweet:

> *@Student: I think if you used the voice (well done), it would be better than the clapping sound.*

In addition, from analysis of the classroom observation, I found that the teacher asked the groups to present their work (developing an educational resource based on the instructional design principles and writing assignments) to receive comments from both the teacher and students. The aim of this was to develop the work before the final submission. Twitter, in this regard, was used to save discussion time in the classroom. The comments posted on Twitter at the same time during the presentations instead of giving each student a specific time. However, it was noticeable that not all comments were posted on Twitter during the presentations in the classroom (synchronous discussion). Sometimes this took place outside the classroom (asynchronous discussion) due to the Internet connection.

6.4.1.2 Synchronous (real time) discussion

In this course, students were asked to complete their activities on Twitter. Students in this module can use Twitter as a platform for real-time discussion.

One of the activities that was requested by the teacher was developing an educational resource based on the instructional design principle. Students were given the opportunity to choose any subject they wanted. The teacher emphasized the importance of communication between students by using Twitter.

To complete the work, it was desirable for the group to communicate at the same time on Twitter. Through Twitter, students were able to open the issue for discussion with their partners to carry out the activities at the same time. For instance, student S1T mentioned:

> *We were asked to produce an educational resource. So, I decided to join with the other [on Twitter] on a time that convenient for all of us to finish the work. Me and my colleagues designed it and one of us was the group leader.*

The teacher T1T asked each group of students to communicate on Twitter at the same time to do the activities. He stated:

> *I asked the student groups to use Twitter at the same time to communicate and complete activities.*

But, the teacher T1T mentioned that:

> *Communication is often indirect. A student tweet a question and after a while it was answered by me or by other students. Of course, on Twitter you cannot know if the user connected or not like other programs ... but it could be Synchronous communication by chance but mostly was Asynchronous.*

This statement led to recognise the second type of communication that was done on Twitter and what is called Asynchronous communication.

6.4.1.3 Asynchronous communication

Asynchronous communication is another affordance of Twitter that allows students/ teacher to communicate offline and be updated with any activities that

took place in class or online. For example, student S2T expressed his thoughts during the interview as follows:

> *The pros that I have seen [from Twitter], sometimes when I was not in the classroom and when questions were being asked, I found them on Twitter with students' responses and I replied to them.*

Moreover, students used private messages for asynchronous contact with the teacher. For example, S4T asked the teacher to accept his excuse for not attending the next lecture.in advance by sending a private message.

However, the teacher mentioned that *synchronous* communication could occur between users by chance, stating:

> *Predominantly, the communication on Twitter takes place indirectly. Students post tweets or comments and after a time it is replied to by me or by other students. Overall, on Twitter we cannot know if the user is online or not like other applications...I mean it is possible to have direct contact by chance.*

The results showed that all the students were involved in discussions on two levels. The first level comprised individual participation in responding to the teacher's questions and the second level entailed collective participation within work groups. At the first level (individual participation), each student has his own responsibility to engage in these activities. Also, the individual was responsible for using Twitter to interact with the teacher and with other students, such as answering the teacher’s questions or engaging in discussions about topics that were determined by the teacher. However, in the second type (collective participation), each student should work within a team to achieve the general goals of the group on Twitter. In this case, they were responsible for collecting, organizing, producing and presenting content to the group members to accomplish the final product (developing an educational resource based on the

instructional design principles and writing assignments). This procedure carried out by students may promote self-regulation, addressed in further detail in the discussion chapter

6.4.2 The continuity of learning outside the classroom

The use of Twitter facilitating students' engagement in learning activities from anywhere and at any time, rising students' self-confidence in participating, more enjoyable and comfortable.

The findings from interviews analysis showed that four out of five of the interviewed students commented that they experienced learning inside and outside the classroom and they pointed out particularly to learning at home. They found it more enjoyable because it changed the routine of conventional learning. For illustration, S3T commented:

> *Twitter was a practical application of distance education, in that education is not necessarily only in the classroom but is possible outside of the classroom. This was the experience that we had in this module.*

The findings from classroom observation analysis showed that the teacher T1T tried to associate the learning in the classroom with Twitter. For instance, he taught a topic entitled learning tools and resources and he mentioned at the end of the lecture that he was going to post some questions about this subject on Twitter. He tried to motivate students to engage in discussion outside the classroom by asking such questions. When I asked the teacher after the session, he stated:

> *In order to keep students associated with the subjects and keep information after the lecture, I post questions on Twitter in order to encourage them to debate, dialogue and critique ideas.*

The data analysis of Twitter messages reviled that the teacher post question about the learning tools and resources as presented in Figure 6.9.

Figure 6.9: An example of motivating students to engage in discussions outside the classroom.

The above posts published by participants in Arabic are translated below:

> *@[Teacher]: Guys. From your point of view, can we use the social network Apps in higher education? Why?*

In addition, the findings of the interviews analysis indicated that two out of five students preferred study at home by using Twitter, because they belief that it was more comfortable. For example, student S1T indicated:

> *I prefer Twitter to study at home as it is comfortable.*

Likewise, from all the students' statements about the influence of Twitter on their learning, they reported that Twitter complement classroom learning. In addition, they pointed out that changing the classroom environment could develop their sense of enjoyment in learning. Student S1T, for illustration, remarked:

> *Online learning [Twitter] completed the class learning … it was enjoyable and it changed the classroom atmosphere. Praise be to Allah [God] I saw it as something fun to me.*

In addition, student S1T mentioned that learning tack place at home, because he can ask the teacher on Twitter about any ambiguous concepts, and added:

> *Learning on Twitter completes the class because it is enjoyable and changes the atmosphere. You learn whilst you're at home and you can communicate with the teacher and he will explain anything to you.*

Furthermore, the teacher and the nature of interaction on Twitter encouraged students to engage in discussion. Data analysis of interviews demonstrated that some students who were less confident about participating in the classroom found Twitter as an encouragement space for discussion and participation confidently. Student S4T, for instance, stated:

> *I feel comfortable at home. Confrontation between the student and the teacher is sometimes difficult, learning by Twitter was more comfortable and gives students self-confidence. This is my opinion, it encourages students to participate and ask questions confidently when sitting at home.*

6.4.3 Benefits regarding students' learning

Several ideas emerged from the data in relation to this subtheme namely: (1) leaning on Twitter was more active, (2) developing students' languages, (3) having more time to think, (4) review and correct their mistakes before post, (5) content on Twitter did not need any interpretation, (6) increases individual knowledge, (7) availability of content on Twitter increased in their attention in the classroom, (8) Twitter and conventional learning complemented each other. These subthemes are presented in detail with examples of comments from the teacher and students

A student commented that Twitter was an active environment, so students willing to engage in learning interaction. Therefore, the potentials of interaction between students on Twitter were greater than in classroom interaction. This finding was

elicited from comparing learning between classroom and Twitter environments. Student S2T, for instance, mentioned:

> *Learning through Twitter is more active, because of no one use Twitter except those who are interested or serious.*

Two out of five of these students in this group perceived that their language skills and expression developed during the discussions or answering questions. S1T, for instance, mentioned:

> *I also feel that my language skills and expression improved.*

In addition, student S4T has the same view and also remarked:

> *Despite the drawbacks of Twitter that you cannot add long sentences, Twitter drives me to learn how to shorten the sentence as much as possible.*

Furthermore, two out of five of students compared between the classroom and Twitter environments in terms of answering the teacher's questions. They noted that time played an important role in answering questions. Students had more time to think, review and correct their mistakes before posting on Twitter. Student S1T, for instance, commented:

> *I make fewer mistakes because I have more time to revise what I am about to say before I post it. I do not think that this is the case in classroom, where all the students want to present their ideas. So I do not have the time to think or discuss.*

The teacher also mentioned:

> *Twitter helped students to think more. And some students began to ask in-depth questions about some of topics.*

Additionally, three out of the five of the interviewed students stated that the interaction that took place on Twitter allowed them to share ideas and information, which in turn increases individual knowledge. S5T indicated:

> *[Interaction on] Twitter helped me to increase my knowledge through exchanging my experiences and information [with other students].*

Student S1T, in addition, mentioned that students' posts were clear and did not need any interpretation:

> *I believe that I have a clear understanding of any ideas presented by the other students because the discussion is in front of me and I can read listening, which is better than listening to it. It [listening to listening] might cause mistakes, or misunderstanding the original [meaning].*

In addition, two out of the five of these students articulated the relationship between the availability of content and the increase of their attention in the classroom, which is one of the advantages of using Twitter in education in this module. For example, S3T asserted:

> *Normally, in the classroom environment I listen to the teacher and write down what he said, so I miss some of information. But in this course, the teacher sends us a link on Twitter and I download a whole lecture. Of course, this way gives me a chance to focus on the lecture and participate rather than focusing on writing.*

In addition, S1T commented:

> *In terms of focus, I am more focused on my learning when using Twitter. In the classroom, the time I spend in there in addition to the lecturer's explanations might cause me to lose focus and concentration.*

The interviews revealed that two out of the five of the interviewed students felt that Twitter was an effective tool but it has some limitations in learning. However, they also felt that conventional learning methods were not exciting. Thus, students S1T, for instance, perceived that Twitter and conventional learning complemented with each other:

Interviewer: So there was a link between these two environments?

S1T: Of course, this is necessary [to link between these environments] because learning does not come by itself. Traditional learning methods are boring; and learning only through Twitter would have limited benefit.

S2T also noted:

The teacher posted questions on Twitter related to a particular topic and we prepared to answer them in the lecture. The questions that were posted on Twitter were useful for our learning in the lecture. In addition, it was also available on Twitter to review. That means the classroom became a practical environment.

Finally, as mentioned in different parts in this chapter the findings from the data analysis classroom observation and Twitter messages showed that the Twitter helped students to do module's tasks (*the questions and answers on Twitter*, *develop an educational resource based on the instructional design principles and writing assignments).*

6.4.4 The influence of twitter on students' characteristics

This subtheme addresses the impact of Twitter on student's characteristics. Five aspects are presented, namely: (1) reduce stress and feeling more comfortable in learning, (2) enhance the feeling of confidence, (3) overcome students' shyness, (4) developing a sense of seriousness, (5) foster the feeling of enjoyment in learning.

All the students reported that they felt more comfortable on Twitter because they can communicate and learn with others at home. Students' learning at home could reduce their stress that had in the classroom as a result of direct confrontation with others (teachers and students) or their feeling about being under monitoring by others. For instance, S4T indicated:

> *I feel comfortable at home. Confrontation between the student and the teacher is sometimes difficult … In the classroom, I was under high stress. We were under the teacher's control, he was watching us all the time, what did we do, and wither we focused with him [during the lecture] or not.*

In addition, student S3T also noted:

> *Interaction on Twitter was better than in the classroom. Because you will learn comfortably more than being in the classroom. You will feel free without barriers.*

Moreover, two out of five of the interviewed students mentioned that the feeling of being comfortable enhancing the feeling of self-confidence and participation without hesitation. Student S4T, for instance, stated:

> *Learning through Twitter was more comfortable and it was increase students' self-confidence. This is my opinion, it encourages students to participate and ask questions confidently while we sit at home… [in addition] you can simply say the information [and share it with the students].*

In addition, four students mentioned in the interviews that some students in the class might feel shyness in engaging with other students in discussions. Furthermore, they hesitated to answer the teacher's questions in the classroom, because of a fear of making mistakes in front of other students. The findings of classroom analysis showed that not all students answered the teacher questions. Therefore, fear of making mistakes might be a one of the critical reasons preventing students from participating with others in the classroom. However, the findings from interviews demonstrated that students had could overcome their shyness on the Twitter environment. For example, S2T mentioned:

> *On Twitter you are outside the classroom and if you make a mistake you can ask and discuss that with others. In the classroom, some students get scared and feel shy when the teacher asks us to give the answer, because we do not want to make mistakes. Shyness is caused by the environment…[such*

as] the classroom environment and the influence of some of other students.

In addition, student S3T described the experience within the working group in the classroom, stating:

There are students who feel shy. I mean, when they were in a working group [in the classroom], I would not be surprised if I saw them sitting only [with us] as a number in the group, neither expressing their opinion nor saying anything. While if they were alone at home or the environment suited them, they would express their opinion.

Working in a convenient place, such as at home, and overcoming shyness may rise students' sense of seriousness. Two out of five of these students emphasized that all students who participated in Twitter discussions were serious because they worked outside the classroom and had the option to access Twitter or not. As a result, from the students' point of view, those using Twitter were serious. For example, student S2T stated:

Learning through Twitter is more active … because only students who are interested or serious use Twitter.

In addition, student S4T pointed out:

The interaction between the teacher and students in the classroom is something normal because you have a serious side (the teacher). But between us, as students [in the classroom while doing tasks], it possible someone says to me (let's finish it), but on Twitter you are sitting at home and your colleague is not with you, I think he will interact with you seriously.

6.5 Constructing a Personal Virtual Community on Twitter

This theme is mainly focused on students' and teachers' previous experience in using social media. In this section, I will present the findings related to: (1) establishing an entertainment environment on virtual world, (2) developing friendships and maintaining families' relationship on virtual world and (3) the

development of students' and the teacher's characteristic in the virtual world. Knowing these aspects might help me learn about students 'and teachers' use of social networks in their daily lives. In addition, the impact of these experiences on the application of Twitter in learning and teaching.

6.5.1 Establishing an entertainment environment in virtual world

The data revealed that Twitter offers features that attract Saudi Arabian users from different ages to construct their own virtual community. The findings of the Twitter's case study showed that students agreed about the impact of context and their personal interests on actual use of social media such as news, the sports' news, the funny clips and jokes, the car's show events and songs. These interests encouraged them to build their own virtual entertainment on social media. This sub-section identifies these aspects, supported with students' comments.

- ***Students' context leads them to build their own virtual community***

At the beginning, the data analysis of the interviews revealed one of the important reasons, from the students' point of view, for the widespread use of social networks, including Twitter in Saudi Arabia. Students believe that their context leads them to build their own virtual community. Based on two of students' point of view, most of the entertainment facilities in Saudi Arabia are restricted to families, leading young people to look for alternative choices for entertainment. Nowadays – and due to this limitation of entertainment choice for young people in Saudi Arabia – Twitter has become the most popular social network because it gives students opportunity for entertaining with others on the virtual world. Student S1T, for example, commented:

> *First, Facebook and Twitter are seen as ways of entertaining our self, due to the lack of variety of entertainment facilities comparing to that you can see in other countries. These websites take the individual into other worlds. We are young men and bachelors cannot go to places to entertain our self because these [facilities] are restricted to families only. As such, we use Facebook and Twitter to live in a virtual world.*

The interviews revealed that all students and their teacher used Twitter because it provides instant and fast-breaking news from anywhere and at any time. Furthermore, the comments posted on Twitter also give more detail. This feature of Twitter keeps users informed of any incidents that might occur in the community. S4T, for example, stated:

> *Through Twitter, news is spread quickly, for example, if there were a fire in Riyadh city, the news would be posted initially on Twitter and then the story is completed from users' responses.*

In addition, the teacher T1T used Twitter to find breaking news and the latest update in his field, he asserted:

> *I often use social networks to see news, communicate easily with others, and search for the latest educational developments in the field of education technology that are presented on Twitter or Hashtags.*

Students also used Twitter in their free time to find sports news, funny clips and jokes. For example, S1T noted:

> *Entertainment topics, such as sports, funny clips and jokes, are the most important topics that I focus on.*

In addition, student S3Tstated that Twitter could help find news on events of interest, such as car shows:

> *I find Twitter a good tool to know about car show news or events. Some tweeters provide information such as times and places with some pictures. For example, the event of the Ha'il Rally was covered daily on Twitter.*

Two students were interested in following people tweeting about literature, such as poems. For example, student S3T indicated:

> *The topic I focus on most on Twitters is poems.*

Moreover, student S3T was also interested in songs:

> *I'm interested in music and there are some young people interested in folk songs.*

From the analysis above, I can see that all examples of students' quotations demonstrated the students' previous experiences of using social media. Furthermore, the data analysis of interviews did not find any indications about the students using social media in education. But instead, students attempted to display the underlying causes that drove them to build their personal virtual community and for what purpose. However, in the interviews the teacher mentioned that he had an experience of social media in education as a postgraduate student and as a teacher. He stated:

> *When I was a [postgraduate] student I used social media to learn English. I used a wiki program. Frankly, it was very useful and it developed our language particularly the literacy skills.*

The next section presents the students and teacher's perception of using social media as tools to develop friendships and maintain families' relationship

6.5.2 Developing friendships and maintaining families' relationship in the virtual space

Students previously tried to establish an entertainment virtual community in which they could satisfy their daily interests. Through this action they got to know other people in the social networks. They selected and interacted with them according to their interests, whether they were family members, friends or unknown people.

The following discussion focuses on some of what the students mentioned in interviews.

Developing new friendships was one of the key purposes of using Twitter for all students.S3T, for illustration, mentioned that Twitter offers the potential to find friends and commented:

> *I use Twitter for making friendships, most users are looking for that.*

In addition, student S1T noted:

> *… we use Facebook and Twitter to live in a virtual world and get to know others.*

Social communication with families was an aspect of using social media such as Twitter for two out of the five students. For example, S2T commented:

> *I use Twitter for news and communicating with my family or friends through direct messages.*

In addition, the teacher used social media such as Twitter to maintain his friendships, he noted:

> *I used social media to contact with my friends*

From what has been found participant aimed to use social media for communicating with other people. But this kind of social interaction in the virtual community could has drawback, for instance *it might led to isolation and introversion*.as mentioned in the section 0.

6.5.3 The development of students' and the teacher's characteristic in the virtual world:

From the interviews, I found that the students and the teacher performed in social media in different ways. These performances might shape their characteristic that

lead to identify their digital agency and identity on social media such as Twitter.

As a result of using Twitter as an entertainment tool, and according to the students, the diversity of information and the speed in obtaining it lead to knowledge growth within various sectors of society, such as Bedouins. S3T mentioned:

> *In the past, people were not busy... But now you will find them all the time on Twitter looking for information and news, such as events, crime, new information and even things [information or news] related to the government that in the past we did not know about it. [But] Now knowledge has growth among individuals. Even the Bedouin in the desert have smartphones.*

- ***Open to other cultures***

In addition, from the data analysis finding students became more *open to other cultures* from different countries. Two out of five students pointed that Twitter led to cultural transmission from one country to another, whether consistent or inconsistent with the students' own culture. For example, S1T commented:

> *It has an effect on the society's culture because you get to know people who live outside of our society [different country] that you and you learn from them things that are not available in our society. Some benefit positively from them and others get only negative aspects.*

- ***Twitter as an Authorship***

In addition, the data analysis revealed that students attempted to describe their participation on Twitter as an *Authorship*. It was mentioned by (80%) of the students in this group (four out of the five) as it is allowing users to tweet and comment on Twitter at anytime from anywhere about any subject freely. In light of the information revolution, with the assistance of social media, students feel free to express their thoughts and transfer information and news through tweets

or through the creation of specialized hashtags. For illustration, S2T stated:

> *Publishing information [on Twitter] is easily because the official news agencies are controlled. But on Twitter you are free to publish…or creating hashtags [related to this information for example].*

- ***Engage in political negotiation***

Using Twitter, students can find and *engage in political negotiation*. Student S4T was interested in political issues and commented:

> *I like Twitter because it gives me the chance to read about any issue related to politics. In addition, I can post any comments around these issues to express my thoughts.*

Furthermore, when I asked students in the interviews about the subjects that they were interested in. Two students mentioned that they were interested *in religious subjects* on Twitter. This is exemplified by the comment of student S4T:

> *On Twitter there are some religious issues raised by some well-known people who attract our attention. Sometimes these tweets discuss some important Islamic Sharia Law issue, which contribute to raise the level of knowledge among people. I think this is important for us. Moreover, users can simply joint his personal account [on Twitter] with a site that send tweets automatically [include] Hadith or Quran citation.*

In addition, two out of five students mentioned that Twitter's users were likely to engage in dialogues regarding to social issues. For example, S4T mentioned:

> *The social issues is a subject that I am interested in, such as the poor in our community; for example, some tweets presented media about the homeless.*

Furthermore, the data analysis showed that three out of the five of the interviewed students were interested in expanding their personal knowledge in various subjects. Twitter gives students the opportunity to gain information through following other personal accounts on Twitter and reading tweets about a variety

fields. Student S2T, for example, mentioned:

> *I use Twitter for news, social networking and keeping up-to-date about the latest information in different fields.*

However, the digital identity on social media occurred in two types: anonymous and real. The teacher and two out of the five students in this group mentioned that users can use either anonymous and/or real identity. For instance, the teacher T1T commented:

> *On Facebook I have one real account. But I have two accounts on Twitter. The first real account has my picture and my information and the other is a virtual account where there is no personal information… The first account is official and I use it to see tweets more than participating and the followers are my family members or friends. In the second account, I am more effective and participate in many subjects, whether through tweets or hashtags.*

In addition, the teacher mentioned that some users on Twitter normally have two different identities. He preferred to deal with the real identity outside education, rather than anonymous identity. He asserted:

> *For me, out of the educational setting I prefer to interact with real accounts and I avoid alias accounts as much as I can. Because aliases often are not bounded by good manners or respect. So I do not expect their reaction, and therefore I avoid dealing with them.*

Furthermore, two out of the five students found that the use of aliases or anonymous identity during interaction on Twitter helped them to interact with other students. In the questioning and answering tasks student S5T, for example, commented:

> *If I have a question, I would ask freely [on Twitter] because there is no one next to me or to see me. If I post a wrong answer there is no one would know who I am. The teacher is the only one who*

knows, while the other students did not know me. So there is a difference in the interaction between Twitter and lectures.

In addition, the teacher mentioned:

Most of students used their real [digital] identity and seven students used an anonymous [digital] identity… I assume that it was useful for students who have some pressure or afraid of making mistakes while participating.

However, the teacher added:

I noticed that the students who participate [on Twitter] by using their real names were scientifically distinct and they were more confidence in the interaction whether in the classroom and on Twitter.

6.6 Summary of the Chapter

This chapter discussed the affordances of a social networking site, namely, Twitter and its various influences on students and teachers at the College of Education at the University of Ha'il in Saudi Arabia. I first initiated this discussion by highlighting the technical affordances of Twitter embodied by the Twitter interface as well as the open close affordances. I discussed these technical affordances since they contribute directly to explain and argue the adoption of Twitter by students at the college of Education as a tool of communication as well as for educational purposes (i.e. submitting assignments and exchanging academic tasks). Then, the issue of pedagogical affordances of Twitter was discussed by introducing some facts concerning the contribution of this social networking site in enhancing the social construction of knowledge through creating contents, easing the access to information, sharing and enriching new information and reflecting on other students' work. Also, this chapter highlighted the role of connecting students with their teachers in a constructive interpersonal communication. The role of Twitter as enhancing cohesion and communication

was also discussed and highlighted. Examples of feedback and support offered by Twitter were also addressed in the data obtained from semi-structured interviews with students and teachers.

Another pedagogical factor was discussed with respect to Twitter as a platform of collaboration between teachers and students. Quotes were provided from students' and teachers' about the collaborative nature of Twitter as gathering students and teachers as well as guaranteeing the possibility of carrying on learning even after or outside the classroom, which makes Twitter an outstanding means of learning and educational interaction between students and teachers.

The benefit of using Twitter in the ICT module and online discussions were also discussed in order to grasp their effect on the students' educational issues. Hence, data about synchronous and asynchronous online discussions were presented to the readers. Finally, date regarding the construction of a personal virtual community on Twitter were presented in detail.

As far as the next chapter is concerned, it will be devoted to discuss another social networking site which is Facebook in terms of its pedagogical affordances to both teachers and students.

7 CHAPTER SEVEN: FINDINGS PART THREE

7.1 Introduction

In this case, the importance of Facebook affordances was the main focus. Five students from the College of Education were observed and interviewed in addition to a teacher at the same College who declared using Facebook in the ICT module. Four themes are addressed related to this case: the technical affordances of Facebook, the pedagogical affordances of Facebook, benefits of using Facebook in Education and developing a virtual community on Facebook.

7.2 The Potential Technical Affordances of Facebook

Initially, the findings of data analysis showed that the majority of students in this class has no experience with dealing with Facebook before this module. This issue was clearly demonstrated by the data analysis of classroom observations, where some students at the beginning showed no knowledge of dealing with the Facebook interface. In addition, a few students kept asking the teacher for help to sign up an account on Facebook until the last three weeks of this term. However, the students' responses to the interviews questions about the technical affordances were after they were involved in using Facebook in this course. This theme is divided into two sub-themes namely: the ease of use and open and closed accounts. These aspects are addressed in detail, illustrated by comments from the teacher and students in interviews and their messages on the Facebook.

7.2.1 The technical affordances of Facebook interface

Primarily, the data analysis revealed that the technical affordances of Facebook interface was the first affordance perceived by students. It offers: (1) suggesting friends, (2) inserting multimedia, (3) filtering posts by using the Like button, (4)

self-presentation in the personal profile space, (5) posting personal comments and (6) posting unlimited text. These aspects are addressed in detail with illustrative comments from the teacher and students, classroom observation and Twitter messages. *as following:*

First, the data analysis of interviews showed that two out of the five students mentioned that Facebook has technical affordances in terms of suggesting friendship from users who might know him/ her or might not. Student S1F, for example, commented:

> *Facebook suggests friendship based on personal information that you provide, or the people who you follow. This means it is possible to see other people [Facebook users] pages who you might know in elementary school and you add them to your friends list.*

Furthermore, two out of five of the interviewed students commented that Facebook was a platform for posting different kinds of multimedia. In illustration, student S1F stated:

> *On Facebook you can post unlimited video clips, sounds and images compared with other social networks. Some social networks you cannot post more than one minute, but Facebook is different.*

In addition, the teacher mentioned:

> *Some students post some images and video clips about their tasks or when answering my questions.*

One of the technical affordances provided by Facebook is the Like button. Student S1F remarked that this encourages students to pay attention to the post's information:

> *The teacher used the Like button if a student posted a good comment to encourage other students to focus on it and read this comment.*

From the data analysis of Facebook messages, I found 35 Likes used by the teacher, represented by the examples shown in Figure 7.1.

Figure 7.1: An examples of using the Like button.

The above posts published by participants in Arabic are translated below:

> *Teacher: what do you think, about the role of educational technology for solving the problem of population explosion?*
>
> *Student: Yes, because it provides richer, clearer, and more comprehensive content and it reduces time and effort to reach content.*

Furthermore, users on Facebook present their personal information, which can be used to find other users. Two out of five of the interviewed students mentioned that the profile space is one of the technical affordances of Facebook. For instance, S1F stated:

> *Facebook suggests friends based on the personal information that are provided [in the profile space].*

In addition, three out of five of the interviewed students mentioned that Facebook allows users to post comments on other posts easily. S1F, for example, mentioned:

> *In addition, the teacher's feedback on our final work motivates our learning on Facebook. Also, the ease of posting comments on students' responses during the discussions.*

One of the Facebook features is posting unlimited text, so users can post long paragraphs or even a story. Two out of five of the interviewed students noted this features. Student S2F, for example, declared:

> *On Facebook you can extend your writing more than on Twitter,…[you can] poste a short story or novel on Facebook.*

The teacher also commented on this and justified his choice of Facebook in the module:

> *I found that Facebook was more appropriate for some reason. It does not require word limits …. the student can go on writing without limitation, but Twitter they have only 140 characters.*

However, one student was concerned about *the copy right*. He mentioned that copy and paste other users' work is rather common on Facebook, which might be seen as an obstacle to accomplish the goals of using Facebook in education. S4F commented:

> *Copy and paste others' posts is very common on Facebook.*

From observation of Facebook, I found a number of long posts from students. For example, when the teacher asked the students about the possibility of using social networks in the classroom when they became teachers, one student replied in detail (see Figure 7.2).

Figure 7.2: An example of the ease of posting unlimited text on Facebook.

Facebook, in addition, provides direct messages between users, but it seems that no students use this affordance. However, the teacher used this feature to send messages to students who were not participating to motivate them to engage with other students on Facebook:

> *I sent messages to students through Facebook to motivate them to participate.*

7.2.2 Open and closed accounts:

Facebook has technical affordances that give the users the ability to manage the account settings. It is possible to make Facebook account open to everyone to post comments on its messages or following the account. Correspondingly, the account can also be closed to precise users. In the following, the examples of findings presented from the data analysis regarding to open and close account affordances.

In this module, the teacher used Facebook to create working groups as a virtual environment to facilitate interaction between students and between the teacher and their students. Two out of five of the interviewed students stated that the

teacher used a closed account on Facebook for learning purposes. For example, student S3F declared that:

> *The teacher created a closed group on Facebook in order to discuss and present educational resources, as well as to evaluate and discuss assignments prepared by the working groups. I think this is a good idea.*

To invite others into these closed groups, it is necessary to send a friend request. Three out of the five of those students mentioned that in the interviews. Student S2F, for illustration, stated:

> *I used my account on Facebook and I sent a request to the teacher to join the group that he created.*

To sum-it-up, in this Facebook account, which was allocated by the teacher T1F, both students and teacher tried to benefit from its technical affordances, that was mentioned previously in this theme, in order support their learning and teaching.

The next theme the potential pedagogical affordances of Facebook from students and teachers' views are demonstrated in detail with examples from interviews, classroom observation and Facebook messages.

7.3 The Potential Pedagogical Affordances of Facebook

This theme is divided into subthemes, namely: the social construction of knowledge, connectivity between students/faculty and social presence, online discussion and student' cognitive presence, synchronous and asynchronous discussion, cooperation among students and improving students' learning. These aspects are again presented in detail, employing illustrative comments and classroom/online observation.

7.3.1 Social construction of knowledge

The data analysis revealed that students socially constructed the knowledge related to the ICT module on Facebook.

First, according to the data analysis findings, three students out of the five considered that sharing information between students would expand the module content. For illustration, S1F noted:

> *Sure, the positive aspects were the exchanging information between the student and the teacher to enrich the educational content of the ICT module.*

In addition, two out of five of the interviewed students considered that the discussion on Facebook can lead to obtaining more information related to the lesson's topics. S1F commented:

> *Also, the discussion between students and the teacher gives us additional information about the topics we studied not available in the textbook.*

7.3.2 Reflection

The classroom observation showed that Facebook was used to reflect on the groups' presentations. The teacher asked the students to do activities in order to achieve the course aims. The activities were mainly: *developing an educational resource based on the instructional design principles and writing assignments*. Student groups were obligated to complete these activities on Facebook. After they completed these tasks, the teacher asked each group to present their work in the classroom. During the presentations, one of the group members recorded a video by using a mobile phone. After he finished recording, he posted it as a link on Facebook to allow students to comment on how he should improve it.

Figure 7.3: An example of group presentation.

Students and the teacher reflected on the groups' presentations outside the classroom. For example, one student posted a reflection on a group presentation on Facebook about an educational resource, which was designed based on the instructional design principles, entitled the Arabic language. He posted:

> *Student: Good presentation, May Allah reward you well. Your presentation is very long. So, I think the users will not complete it [the educational resource].*

Another example from Facebook, a student posted his reflection on an assignment's presentation about the use of Twitter in education:

> *Student: I like your presentation. Because I like Twitter. I want to use it if I graduate, particularly after your presentation*

However, only four out of eighteen presentations were shared on Facebook because the other fourteen did not want their faces to end up on social media. Furthermore, expressions of gratitude or appreciation were dominant in the participants' reflections, which were not critical nor were they in depth. For example, students posted *"Student: Thank you"*; *"Student: Good presentation"*;

"Student: May Allah reward you well". However, the teacher did not remined students about the importance of sharing the videos on Facebook or critically reflect on groups' presentations.

The data revealed that students reflected on the tasks chosen by the teacher. This was not always positive. As an example, a student on Facebook posted:

> *Student: I think I do not need to use Facebook to do the assignment. The important thing is to finish the assignment.*

At the end of term, the teacher encouraged students to reflect on using Facebook in this module. For example, one student remarked:

> *Student: The use of Facebook is good, but the interaction was so much.*

In contrast, another student commented:

> *Student: Here the dialogue [on Facebook] is wonderful and the classroom is the best.*

7.3.3 Connectivity between students/faculty social presence

The interviews and observation data revealed that Facebook facilitated the connectivity among students and teacher in this module. Students, as mentioned earlier, showed awareness of the technical affordances of Facebook, which might led them to perceive its pedagogical affordances as it provided an environment to be connected with each other during the semester.

The students' and teacher' social presence that emerged from their posts on Facebook promoted connections in order to complete the module tasks. I use the community of inquiry framework (Garrison, 2003) in order to analyse students' inputs on Facebook in order to identify the indicators of social presence messages. The analysis of students' and teacher's posts showed that there were

a few messages reflecting social presence on Facebook. Social presence classified into three phases, as follows: *interpersonal communication, open communication and cohesion of communication.* The following paragraphs present some examples of social presence phases that emerged from the analysis of students and teachers' posts on Facebook.

- ***Interpersonal communication***

The data revealed that the students' and teacher's posts on Facebook did not provide a good representation of interpersonal communication. Using religious references and expressions was the only indicator of interpersonal communication. For instance, students used Quran verses, especially on Fridays, or phrases such as *"Bless our Prophet"*, *"God bless you"*, *"God reward you"*.

- ***Open communication***

The data findings showed that the posts exchanged among the participants (students and the teacher) on Facebook enriched open communication. This can be classified into eight indicators, as follows: *referring explicitly to others' messages*, *asking questions*, *complimenting*, *expressing appreciation*, *making suggestions*, *expressing disagreement*, *expressing agreement in words* and *expressing agreement using the Like button*. The following quotations demonstrate each indicator respectively:

> *Student: I agree with [name of the student]. If the system were allowed, I would be the first user because it saves time and effort for the teacher and students….*
>
> *Student: What should we write about?*
>
> *Student: Thank you; Student: Good presentation.*
>
> *Student: I think if we do an assignment about WhatsApp...*

Student: No,…; Student: Yes, but we should take into account…

Student: Exactly; Student: Yes, if the smart devices are available for students; Student: I agree with you (…); Student: From my point of view, Yes we can…

The students and the teacher also used the Like button to express agreement with some posts.

- ***Cohesion of communication***

The data showed that the posts exchanged among the participants (students and the teacher) on Facebook enriched the cohesion of communication, classified into three indicators, as follows: *vocatives*, *addressing or referring to the group using inclusive pronouns.* The following paragraphs present each indicator respectively:

Vocatives: Students used other students' names or the teacher's name in some posts to determine the person they wanted to talk with or wanted to comment on. For instance, one student explained to the teacher T1F the process of developing an educational resource based on the instructional design principles, posting:

Student: Doctor [name of the teacher] the introduction and titles were arranged in good order.

Teacher:: I agree with [name of student]

Inclusive pronouns: such as *we*, *our* and *us* were generally used within the groups when they were developing an educational resource based on the instructional design principles or determining the subject for the assignment.

Ease of communication with the teacher was notable in the interview with all students. For example, when S4F was asked about his views concerning the advantages of interaction on Facebook, he mentioned:

> *The ease of communication between me and the teacher through Facebook.*

The teacher, in addition, mentioned:

> *Facebook provided me with a good environment in which to communicate with students comfortably.*

Facebook provides a good environment for keeping users in contact. The data analysis revealed that three out of the five students saw a difference between the classroom and Facebook in terms of the communication between students. For example, S1F noted:

> *In the classroom there is no contact between me and the other students, but after creating groups we became in touch on Facebook.*

The data analysis showed that feedback could occur between the teacher and student and between student and student. Three out of the five students mentioned that the teacher posted feedback. Student S1F, for example, stated:

> *Receiving feedback from the teacher about the final work motivates us to learn.*

In addition, four out of five of the interviewed students remarked on feedback from other partners during the discussions. For example, S2F said:

> *Actually we talk and argue [on Facebook] and when someone makes a mistake the others correct it.*

From the data analysis of Facebook messages, I found a few examples of the two types of feedback – teacher/student and student/student. Figure 7.3 demonstrates these types of feedback during the evaluation of the educational resource designed by students.

Figure 7.4: An example of receiving feedback.

The above posts published by participants in Arabic are translated below:

> *Student 1: No, I do not think it is in the implementation phase.*
>
> *Student 1: The development phase is correct.*
>
> *Student 2: The implementation phase presents errors in the slide show.*
>
> *Teacher: That is correct.*
>
> *Teacher: It shows the quality of our work.*
>
> *Student 2: Development phase shows us?*
>
> *Teacher: The development guides us to address the mistakes that have occurred in the implementation.*

7.3.4 Collaborative learning and teacher's teaching presence

As a result of students' and teacher's perception about the technical affordances of Facebook the teacher asked students to use Facebook as a platform for collaborative learning. The teacher's teaching presence, in addition, had a prominent role in promoting collaborative learning on Facebook. In order to identify the students' presence of the pedagogical affordances of Facebook this subtheme seeks to highlights on three aspects: (1) creating works groups on

Facebook, (2) the benefit of engagement in work groups and (3) students' cognitive presence on Facebook.

7.3.4.1 Creating work groups on Facebook for collaboration

From classroom observations data analysis, I found that the teacher asked students to do two tasks on Facebook. The first task was writing an assignment about the potential of using social networks in education. The second task was developing an educational resource based on the instructional design principles by using PowerPoint. In order to achieve that, the teacher divided students into groups and he asked each group to choose a leader to organize the work within the work group and upload the final tasks on Facebook for assessment.

From the interviews data analysis, I found that four students out of five mentioned that work groups were created to complete the tasks. Student S1F, for example, commented:

> *We were distributed by the teacher into work groups to do activities.*

In addition, student benefited from the digital engagement within the work groups in which they *received peer support and exchange* experiences. From the data analysis two out of five students saw that working within groups on Facebook has some benefit such as receiving peer support and exchanging experiences. Student S1F, for illustration, stated:

> *The work within the group was very useful for exchanging experiences and information between students and helping each other to complete the module activities.*

7.3.4.2 Students' cognitive presence on Facebook

The students' interaction on Facebook requires to demonstrate a cognitive presence in their posts. I use the community of inquiry framework (Garrison,

2003) to analyse students' messages in online discussions to identify the indicators of cognitive presence from students' messages on Facebook. The analysis of students' inputs showed a relative cognitive presence among students on Facebook classified as follows: *triggering*, *exploration*, *integration* and *resolution*.

- ***Triggering phase***

Based on the community of inquiry framework, this phase consists of recognizing problem and puzzlement indicators. Students in this phase recognized problems through conceptualizing and exploring problems. From the social media text analysis, I found posts on Facebook includes the *triggering phase*. For example, a student on Facebook asked other students in the same group about the task that agreed by the teacher:

> *Student [group leader]: The teacher asked us to do two activities. Constructing [constructional resource by using] PowerPoint and an assignment about social networks. shell we start to do.*

Another student in the same group replied:

> *Student: yes, but what subject we should choose and easy to do in the PowerPoint.*

In addition, some students may face some problem confusion understanding some of concepts (*puzzlement*) related to the task and therefore use Facebook to post their questions for clarification. For example, a student asked the teacher about a concept that mentioned in his question:

> *Student (within a group): Sorry, but what is the meaning of population explosion.*

- ***Exploration phase:***

By analysing students' individual/ group messages on Facebook, three indicators were found, as follows: *divergence in information exchange*, *brainstorming*, and *suggestions*. In addition, *sharing own opinions*, *giving different ideas*, and *giving own suggestions* were the categories of these indicators that emerged from students' online discussions on Facebook. These are presented in the following quotations respectively:

> *Student [In the question and answer]: We must not rely on traditional education, but must use different educational strategies.*

The student in the quotation above presented an opinion in answering the teacher's questions.

> *Student [In the question and answer]: 1. Saving time and effort, 2. Overcoming the temporal and spatial dimension, 3. Fast and ensuring access to information.*

In addition, students used Facebook to reply to the teacher's questions. The student in the previous quotation brainstormed a justification to reply to the teacher's question: If you become a teacher, are you keen on the use of modern social networks (e.g. Twitter, Facebook, WhatsApp) to communicate with students? Why? What are the benefits of using social media in education?

> *Student [within a group]: We should not use red and green in the same slideshow.*

Here, the student made a suggestion to develop an educational resource based on the instructional design principles. He advised the group members to be careful when using colours through presenting his suggestion.

- ***Integration phase***

As mentioned in the community of inquiry framework, this phase consists of *convergence*, *synthesis* and *solution* indicators. The students' convergence inputs can be categorized into *filtering information*, *integrating information*, *offering messages of agreement by word*, *offering messages of agreement by retweet or favourite* and *summarizing posts*.

Students used the technical affordances of Facebook for filtering information and offering messages of agreement. They used Like icons to highlight the important messages or present their agreement. In addition, students in online discussions offered messages of agreement by word, such as *"Student: Yes,…"*,*"Student: Yes it can be that…"*,*"Student: I agree with you…"*, etc.

In addition, the data analysis showed that students synthesize information through building on other's ideas, comments or answers and by providing a rationale or justification in order to assimilate the concepts.

The last phase of cognitive presence that emerged from analysing students' messages in online discussion was *resolution*. The resolution phase consists of three main indicators, as follows: *applying ideas*, *testing the work*, and *defending*. Students used the ideas that emerged from online discussions to complete their tasks. After finishing the tasks, (developing an educational resource based on the instructional design principles and writing assignments), they should present it in the classroom. Then one student from this group should present it in the classroom and the another student record it by video in order to upload it on YouTube and then sharing the link on Facebook. This procedure allows students and the teacher to post comments on the presentation on the Facebook. by the

teacher and other students. The group then tried to justify, explain and clarify their work on Facebook (asynchronously, see 7.4.1.1).

7.4 Benefits of using Facebook in Education

This theme is divided into sub-themes, namely: (1) online discussion and the cognitive presence (2) improve students' learning and (3) the influence of Facebook on students' characteristics. In what follows, these subthemes are demonstrated in detail with illustrations of comments from the teacher and students, Twitter messages and classroom observation.

7.4.1 Online discussion and the cognitive presence

The interviews and observation data revealed evidence of students' digital engagement in online discussion on Facebook. The students, as mentioned earlier, showed awareness of the technical affordances of Facebook. despite the finding interviews data indicated that most of the students did not have previous experience on Facebook. However, leading them to perceive its pedagogical affordances as it provided them with an appropriate space for digital interaction. The aim of interaction on Facebook was to achieve the lessons objectives

From the data analysis, I found that there were two types of online discussions on Facebook: asynchronous discussion and synchronous discussion. Each type is presented with statements from the teacher and students.

7.4.1.1 Asynchronous discussion

Analysis of Facebook data showed that asynchronous discussions took place on Facebook. Four out of five of the interviewed students pointing out that they discussed tasks asynchronously, so that each student posted comments at any time outside the classroom. For instance, S1T stated:

> *The teacher asked us to do some activities and discuss them on Facebook. Each student made his comment on the matter that needed to be discussed on Facebook. You can see these that messages [posted] at any time outside the lecture, at home, for example. This type of communication and discussion gave us the freedom to post comments in leisure time.*

In addition, when I asked the teacher about the kinds of interaction that took place on Facebook, he asserted:

> *In this module, my aim was that students should experience different types of communication in education, including asynchronous and synchronous. Students on Facebook experienced asynchronous communication through group discussions, posting comments and answering questions at any time deemed appropriate to them.*

In addition, from the observation of Facebook data, I noticed that the posting of comments occurred at different times and on different days. For example,

demonstrates the students responded to the teacher question from 3 April to 21April.

Figure 7.5: An example of asynchronous discussion.

7.4.1.2 Synchronous discussion:

Four out of five of the interviewed students mentioned that the students and the teacher met synchronously on Facebook, around one hour, before presenting their work (developing an educational resource based on the instructional design principles) in the classroom in order to get students' comments to develop the last version. For instance, S3T commented:

> *When we complete our educational resource, we should present it on Facebook to discuss it with the teacher.*

Furthermore, the teacher on Facebook met with the students to discuss their work. He mentioned that:

> *The educational resources were also evaluated with students synchronously, where we agreed to meet at a specific time on Facebook to discuss them.*

Figure 7.6 shows synchronous discussion between the teacher and students as observed on Facebook.

Figure 7.6: An example of synchronous discussion.

The above posts published by participants in Arabic are translated below:

Teacher: Here guys.

Student: [We are] With you.

Teacher: The resource link
https://drive.google.com/.../0A0tDzcgV.../edit

Teacher: Does the link work.

Student: Yes, and I found the educational resource.

Teacher: Ok, you should do share or like.

Student: I pressed like button.

7.4.2 Support students' learning

The data analysis showed that the use of Facebook in this module support students learning as follow: (1) stimulating student-centred learning, (2) developing dialogic skills, (3) giving time to think before participating, (4) completing the final works and (5) saving students' time and effort in reviewing work on Facebook. Each aspect is presented with examples from interviews data.

- ***Stimulating student-centred of learning:***

The use of Facebook in education helps to change the role of students from the receives of information to a source of information through the concept of student-centred of learning. Two out of five of the interviewed students mentioned the new role of students in this module. For example, S2F declared:

> *The role of the teacher is only as guidance. For example, the teacher asked us to use Facebook and explain how to deal with it, but the students must learn and find the information by themselves.*

In addition, when I asked the teacher about the role of students in this module, he stated:

> *Sometimes I feel proud when I see the success of such a process and I contribute to changing the traditional education status to another, so the student becomes the centre of the educational process.*

- ***Developing dialogic skills:***

In terms of developing dialogic skills two out of five of the interviewed students stated that the interaction between the students and between the students and the teacher gave them the chance to improve their dialogic skills on Facebook. S2F, for example, revealed:

> *The main pros of using Facebook is the development of the skills of dialogue to obtain information and construct knowledge. Dialogue and discussion [on Facebook] have a significant positive effect on the human. This is my belief, some students might disagree with me, but this my feeling and that is my opinion.*

- ***Giving time to think before participating:***

In the Facebook activities, the teacher posted questions after the lessons to motivate students to interact with each other outside the classroom. The data analysis revealed that three out of five of those students benefited from this way of seeking answers and thinking before posting. S2F, for example, commented:

> *The teacher asked questions on Facebook and he asked us to respond. I looked for the answers to the questions. I should to be familiar with the subject first, so I searched in the books and online to reach the typical answer, then I wrote answers down in my own words in order not to be literal.*

- ***Completing the final works***

From the observation data analysis, I found that the teacher asked the students to do some activities, namely an assignment about the use of social networking in education and presented in the classroom. During the presentation, he asked one student in the group to record and upload the presentation on Facebook. In addition, he asked each group to develop an educational resource based on the instructional design principles in any subject they prefer. Three out of five of those students mentioned that other students commented critically on their final peace of their activities. For example, student S1F noted:

> *The teacher asked us to write an assignment and design an educational resource using PowerPoint and post it on Facebook to be evaluated by other students considering the pros or cons.*

Moreover, the teacher mentioned that he asked students to video record their presentation in the classroom to save time and give students the opportunity to comment on other students' work on Facebook and added:

> *The video recording of students' presentations in the classroom and sharing it on Facebook helped us to save lecture time and gave them the opportunity for dialogue and discussion on Facebook. This procedure helps students to gain the critical skills by commenting on the other students' works, and thus in turn maintain the information in their minds.*

- ***Saving students' time and effort in reviewing their work on Facebook:***

Two out of five of the interviewed students noted that students benefited from using Facebook for saving and reviewing comments and students' work at any time, increasing the value of Facebook as a space for storing content. S4F, for instance, stated:

> *At home I read the students' comments and download the videos that have been recorded in the classroom... This is one of the Facebook features that allows you to see what has been saved at any time.*

7.4.3 The influence of Facebook on students' character

This section addresses the impact of Facebook on student's characteristics. Two aspects are presented, namely: (1) overcoming students' shyness and (2) enhancing the feeling of self-confidence.

- ***Overcoming shyness:***

The analysis of the data revealed some students have two identities varying according to the working environment. Two out of five of the interviewed students mentioned in the interviews that some students in the classroom might feel shyness, but on Facebook become more active. Student S2F, for example, stated:

> *I noticed that most of the students were shy, so they were involved on Facebook more than in the classroom. I noticed that because I used to participate on forums …, thus I found more [about] those who were shy in society. They participated more on online in front of the keyboard.*

Furthermore, the teacher emphasized the role of Facebook in overcoming students' shyness:

> *Some students feel shy and they wish I would not ask them questions even if they have the answer because they are too shy to speak in front of their colleagues, so Facebook helps students to break the barrier of fear.*

- ***Enhancing the feeling of confidence:***

Also, two out of five of the interviewed students mentioned that the learning through Facebook affected their personalities, which become more confident. In illustration, student S3F commented:

> *Learning through Facebook increased the sense of self-confidence and I participated freely. Some [students] hesitated to speak with the teacher.*

In addition, the teacher commented:

> *Students were participating with confidence and without psychological effects.*

7.5 Constructing a Personal Virtual Community on Facebook

This theme is divided into sub-themes, namely: (1) establishing an entertainment environment in virtual world, (2) developing students' and teacher's characteristic on the virtual world. These aspects are presented in detail, illustrated by comments from the teacher and students and classroom/online observation.

7.5.1 Establishing an entertainment environment in virtual world

Initially, the data analysis of classroom and interviews revealed that the majority of students do not have accounts on Facebook until taking this course. Therefore, their subsequent responses to interviews stem from their previous experiences in other social networks.

However, the data analysis revealed that all students considered social media such as Facebook a place for entertainment or viewing news, whether political, sports related, social, or religious. S3F mentioned:

> *The current use is dominated by aspects of fun and entertainment.*

In addition, student S1F noted:

> *I use it to see the daily news.*

Moreover, student S4F commented:

> *My interests are more in sports news than religious issues and the last is political news.*

Additionally, student S2F commented:

> *In addition to all the political, sporting and social events, I mean it is the information explosion.*

- ***An environment for attaining content:***

Attaining content: four out of five of the interviewed students considered social media, Facebook as an example, has provided content that was not available in the past. S2F, for example, declared:

> *The information [in the past] was rare…but now we are living in the realm of information explosion. I mean, if you want to close the door [of information] it will be impossible to close it.*

In addition, S4F remarked:

> *People in the past were only listeners [receivers of information]. I mean, they did not know much about politics nor religion, but now children reach information on Facebook or Twitter.*

- ***An environment for emotional expression:***

Moreover two out of five of the interviewed students found Facebook a place in which to express users' emotions. S2F, for instance, noted:

> *Facebook is used to express feelings. If you view posts carefully, you will find that Facebook is to express feelings.*

Furthermore, S1F remarked:

> *Social networks such as Facebook allow the student to express himself, his character, vision, or his ideas.*

- ***Social communication with friends:***

Also, three out of five of those students used Facebook to communicate with their friends. S2T, for instance, remarked:

> *I use social networks such as Facebook to communicate with my friends.*

- ***Developing friendship outside the classroom:***

In addition, two out of five of the interviewed students noted that Facebook enabled them to find old friends. S1F, for example, commented:

> *Facebook suggests friends based on your personal information that you provide, or from people who you follow. I mean it is possible to see other people's pages you might have known in elementary school and you add them in your friends' list.*

- ***Developing friendships with colleagues:***

Analysis of the interviews revealed that the use of Facebook in education facilitates the development of friendships. Only one student, S4T, mentioned the possibility of adding students as friends on Facebook:

> *Facebook encouraged me to interact with and to be friends with other students on Facebook. I mean, if there were no work groups in Facebook, I would not know any students.*

7.5.2 Developing students' and the teacher's digital characteristic in the virtual world

From the interviews, I found that the students performed in social media in different ways. These performances might shape their characteristic that lead to

perceive their agency and develop their identity on social media such as Facebook.

- ***Open to other cultures in or outside of Saudi Arabia***

From the data analysis findings, students became more open to other cultures in or outside of Saudi Arabia. From two students' point of view, Facebook led to cultural transmission from one country to another. Three out of five of those students noted that the users became more open to other cultures, which may lead to a change in the original identity. For example, S1F stated:

> *The culture of the community has changed along with people's thoughts. The thoughts of some people, for example, are limited to the surrounding culture. But after the wide spread of social networks, the users' thoughts have changed because of the ease and convenience of accessing various cultures.*

In addition, the teacher commented the influence of social networks on Saudi Arabia culture in general and Facebook in particular:

> *In general, the first thing is the cultural fusion all over the Kingdom of Saudi Arabia. It is known that the Kingdom of Saudi Arabia is a big country. Those from the south now communicate directly with those in the north, result from a great cultural fusion, in spite of a large gap between them as if they were from different countries. But these methods [social networks, Facebook as an example] have contributed to communication between members of communities, regardless of where the person is from, north, south, east or west.*

Furthermore, three out of five of those students mentioned that they engaged in discussion with others on Facebook. For example, S2F who used his personal account in this module asserted:

> *Through Facebook I share some information and my own thoughts and I take part in a dialogue with others on their pages about various topics such as sports and social or cultural aspects, it gives me space for freedom of expression.*

- ***Authorship to publish personal works***

Additionally, the data analysis revealed that one student attempted to describe himself on Facebook as an *Authorship.* So, he use Facebook to publish his personal works. Student, S2F, commented that Facebook offered a space to publish users' work such as articles. He presented his experience of trying to publish in newspapers:

> *I had an experience of trying to publish in newspapers. I sent an article, but there was no response from the newspapers. Now I publish any topic I want on Facebook. In addition, I published my previous articles on Twitter and on Facebook, so publishing became easy.*

Furthermore, the findings of the interviews analysis showed that one out of the five students used his personal account in the ICT module. S2F asserted that:

> *In this module, I used my personal account, which is an open account not closed, and I put my private details in the profile that others do not know about, such as personal hobbies, contact numbers, the schools where I studied and so on.*

In addition, there are some mental images that stay in the minds of users relating to other users' identities, such as personal images, as pointed out by S1F:

> *When I see some information, I immediately remember the image of the person who mentioned it on Facebook, because each user displays his image. This image is embedded in my mind before the information.*

With regard to anonymous identities, the analysis of the interviews showed that students in the ICT module created accounts on Facebook for learning purposes only. For instance, student S2F mentioned:

> *There are students who did not have accounts on Facebook and they created new accounts for this module only... Consequently, it is hard to find personal information to recognize them.*

From observation of Facebook, all students used their full names and 14 out of 43 students used their personal pictures. The majority of students used temporary accounts, so it was hard to find more details about them, except names and some personal pictures.

7.6 Summary of the Chapter

This chapter took into consideration various affordances of Facebook as a major social networking site. A set of technical affordances were firstly discussed including the Facebook interface and open-closed accounts. These factors were supported by quotes from the interviews conducted with both students and teachers from the College of Education at Ha'il University. Factors contributing to the Facebook interface were discussed, namely, suggesting friends, sharing different kinds of multimedia, as well as posting comments and an unlimited quantity of texts. As for the open-closed accounts, various factors making the use of Facebook easy were discussed like the possibility of opening closed accounts and sharing private messages. Then, the pedagogical affordances of Facebook were also highlighted, namely, the social construction of knowledge, connectivity between students and faculty staff or teachers, and enhance the collaboration between students for educational purposes. All these aspects related to the use of Facebook were considered from the angle of the pedagogical affordances of this widespread social media network in teaching and learning. Hence, to argue this impact, various illustrations were presented from the semi-structured interviews, classroom observation as well as personal postings on Facebook. This also developed towards discussing concepts related to the use of social media networks such as the notion of developing a virtual community on Facebook as well as developing students' and teacher's characteristic on the virtual world.

The next chapter will be devoted to discussing the pedagogical affordances of another common social media network which is WhatsApp among students and teachers at the College of Education.

8 CHAPTER EIGHT: FINDINGS PART FOUR

8.1 Introduction

In this third case study, six participants were observed and interviewed, one teacher who used WhatsApp in the ICT module and five students carrying on their studies at the College of Education at Ha'il University. Four themes emerged from the data in this case, namely, the technical affordances of WhatsApp, the pedagogical affordances of WhatsApp, developing a virtual community on WhatsApp and the benefits of using WhatsApp in education. In the following sections, all these themes are presented in detail.

8.2 The Potential Technical Affordances of WhatsApp

This theme is divided into two subthemes namely: the technical affordances of WhatsApp interface and open and closed groups**.** These aspects are presented in detail with comments from the teacher and students and their messages on the WhatsApp.

Firstly, the findings of data analysis showed that all students in this class have experience of using with WhatsApp before this module. This was clearly showed by the data analysis of interviews and classroom observations, where students showed knowledge of dealing with the WhatsApp interface in the classroom. However, the students' responses to the interviews questions about the technical affordances were after they were involved in using WhatsApp in this course.

8.2.1 The technical affordances of WhatsApp interface

The sub-theme of technical affordances of the WhatsApp interface consists of four categories: (1) the ease of access to the WhatsApp, (2) the simplicity of the WhatsApp interface, (3) receiving notifications of incoming messages, and (4)

inserting multimedia and links. These four aspects are supported by students responded in the interviews.

- ***The ease of accessing into the WhatsApp:***

From the data analysis I found that the ease of access to WhatsApp motivated students to use it. Comparing WhatsApp with other programs it became clear that students in this case study preferred to use WhatsApp more other programs. For example, S3W said:

> *WhatsApp is a light program and it is easy to use. It does not need a user name or password; it is not like Facebook.*

- ***The simplicity of the WhatsApp interface:***

The data analysis revealed that two out of five of the interviewed students thought that the social media interface was the most important features that motivated students to use it. For example, S1W commented:

> *The most important thing is dealing with the program. WhatsApp is easy and the interface is very easy without complications, any person can use it whether young or old.*

- ***Receiving notifications of incoming messages:***

When a message is sent by a member of the group, all students will receive a notification. Two out of five of the interviewed students pointed out that this feature helped them to see any updates that took place in the group. S3W, for example, remarked:

> *The lecturer asks questions on WhatsApp and the notifications come to me and I answer the questions directly.*

- ***Inserting multimedia and links on WhatsApp:***

Diversity in the means of presenting information helps students in their learning. So, two out of five of the interviewed students mentioned that WhatsApp messages can contain multimedia and links. For instance, S1W commented:

> *We send [information] in WhatsApp in the form of text, images, videos, or links.*

In addition, the teacher noted:

> *This tool [WhatsApp] is very useful in the learning process, I also think that it provides too many things, the use of audio and video images and links.*

8.2.2 Open and closed affordances

Due to the nature of WhatsApp, the issue of opening and closing the account is different from Twitter and Facebook. Whereas WhatsApp is not available to anyone to communicate with or send messages to the user, except those who have the user's contact number.

- ***Creating private groups on WhatsApp****:*

In this module the teacher used WhatsApp to create work groups as a virtual environment to assist the interaction among students and between the teacher and students. Two out of five of the interviewed students stated that the teacher used a closed account on WhatsApp for learning purposes. For example, S1W stated:

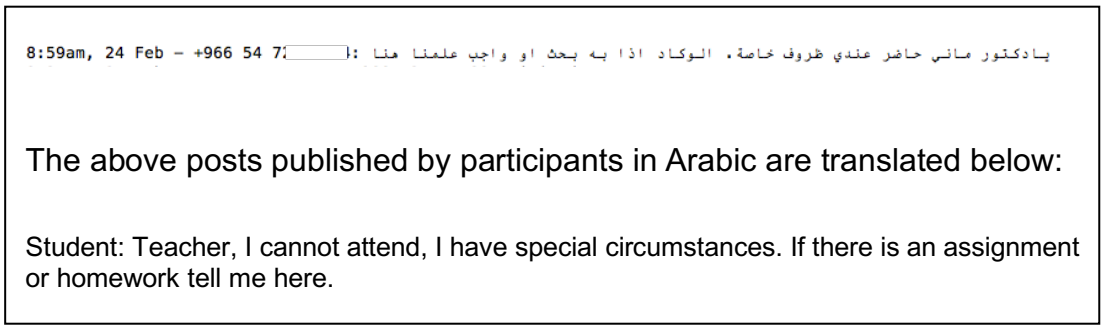
> *The teacher asked us to make a private group for this course [ICT module].*

- ***Receiving messages from the teacher and students:***

WhatsApp was used to exchange messages between users. So, Two out of five of the interviewed students mentioned that in the interviews. S3W said:

> *[WhatsApp was used] to receive messages from the teacher or the students in the group.*

From observation, students used WhatsApp to send messages to other students and the teacher (see Figure 8.1 and Figure 8.2).



The above posts published by participants in Arabic are translated below:

Student: Teacher, I cannot attend, I have special circumstances. If there is an assignment or homework tell me here.

Figure 8.1: An example of student–teacher message on WhatsApp.

The above posts published by participants in Arabic are translated below:

Student 1: [student name], I want to send you a private message.

Student 2: Come into private.

Figure 8.2: An example of student–student message on WhatsApp.

From these technical affordances that were revealed in the findings, both students and teacher attempted to benefit from its affordances that mentioned above in order support their learning and teaching. The next theme the potential pedagogical affordances of WhatsApp from students and teachers' views are presents in detail with examples from interviews, classroom observation and WhatsApp messages.

8.3 The Potential Pedagogical Affordances of WhatsApp

This theme is divided into subthemes, namely: (1) social construction of knowledge, (2) connectivity between students/faculty and social presence, (3) collaboration and teacher's teaching presence. These aspects are presented in detail with illustrative comments from interviews, classroom observation and WhatsApp input.

8.3.1 Social construction of knowledge

This subtheme is mainly focus on constructing the knowledge in WhatsApp. The data analysis revealed that students socially constructed the knowledge related to the ICT module on WhatsApp by constructing meaning and content through sharing concepts, gathering information related to the educational content and activities, and by asking and answering questions. In what follows, these subthemes are presented in detail with examples of comments from the teacher and students, WhatsApp messages and classroom observation.

- ***Constructing meaning and content through sharing concepts:***

The findings of interviews analysis presented that two students out of the five considered that the sharing of concepts between students in answering questions on WhatsApp would enhance the module content. In illustration, student S1W noted:

> *I may have an incomplete concept and another has an incomplete concept, but we complete one ideal idea, I saw that this was a very important subject for gathering ideas [on WhatsApp].*

- ***Gathering information related to the educational content and activities:***

In addition, the findings demonstrated that students, during the use of WhatsApp, posted relevant information to enrich content or to do assignments. Student S1W commented:

> *WhatsApp was suitable as it contains a lot of information. We collected any information about the lesson's subject and put it on the WhatsApp group.*

Despite the lack of students' sharing resources such as multimedia and links on WhatsApp, the data analysis found some posts such as images (see Figure 8.3) and links to answer questions or write assignments. For instance, a student shared a link about the using of social networking in education on WhatsApp.

Figure 8.3: An example of sharing images on WhatsApp.

Figure 8.4: An example of sharing links on WhatsApp.

5:39pm, 3 Mar – +966 55 808 : مراحب، شوفو وش لقيت. فديه يفيدنا بكتابة البحث
5:41pm, 3 Mar – +966 55 808 : https://www.youtube.com/watch?v=IUmnUWzKPaE
5:41pm, 3 Mar – +966 55 046 : شكراً ياغي، تقل انه زين.
5:43pm, 3 Mar – +966 56 357 : ✌

The above posts published by participants in Arabic are translated below:

Student 1: Hi, look at what I found. It might help us to write the assignment.

https://www.youtube.com/watch?v=IUmnUWzKPaE

Student 2: thank you pro. it seems good.

Student 3: ✌

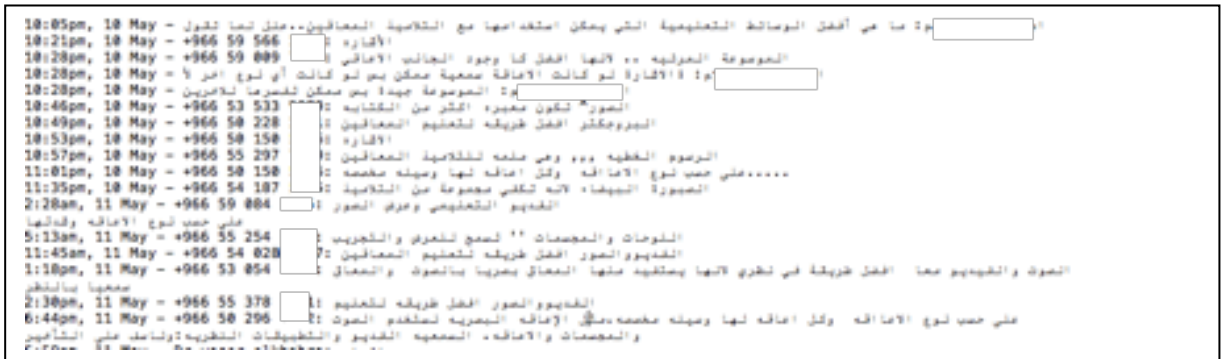
Figure 8.5: An example of students' conversation on WhatsApp.

- ***Content creation through asking questions on WhatsApp:***

Furthermore, two out of five of the interviewed students found that the questions posted by the teacher helped them to build knowledge. Student S1W, for example, noted:

> *You find more than one answer for the question. I have benefited from students' interaction. Once he [the teacher] puts the question up, after an hour all students answer the question. Every period, one posts an answer and others do the same, it is not the same answer since the answers are written at one time.*

Moreover, the WhatsApp observation revealed that some students interacted and answered the teacher's questions as shown in Figure 8.6.



The above posts published by participants in Arabic are translated below:

Teacher: which is the best multimedia that could be used with special needs students… Justifying your answer.

Student 1: Signs

Student 2: The Visual Encyclopaedia… is the best

Teacher: It might be signs if there were hearing disability, but if there is other kind [of disability].

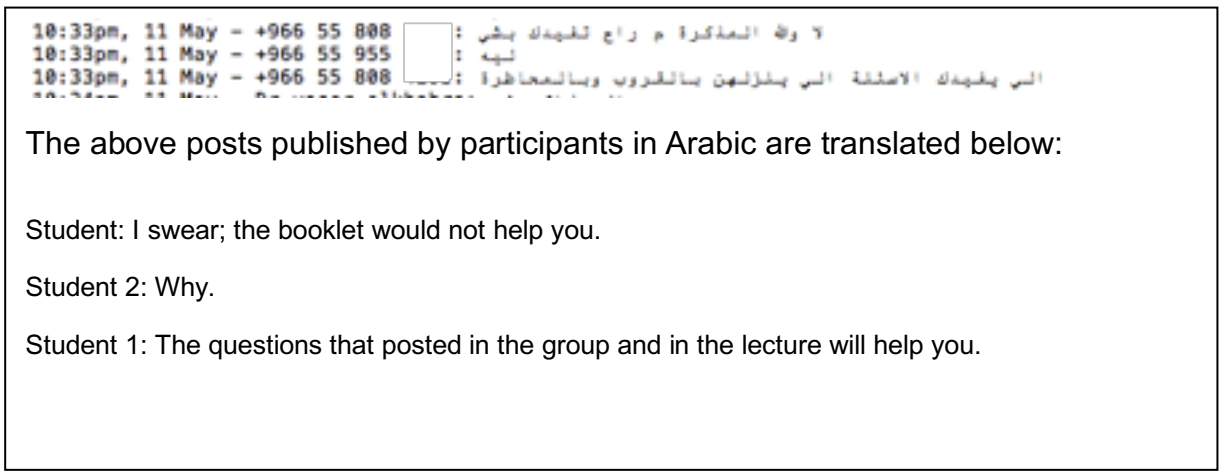
Teacher: Encyclopaedia is good, but could you explained it to others.

Student 3: Images >are more expressive of writing.

etc.

Figure 8.6: An example of students' conversation on WhatsApp.

In addition, students mentioned the value of the teacher's question on WhatsApp compared with the module's booklet. For example, Figure 8.7 presents the students' view of the importance of the teacher's questions. Additionally, the findings of data analysis of WhatsApp messages showed that the teacher were often posting question on WhatsApp.



The above posts published by participants in Arabic are translated below:

Student: I swear; the booklet would not help you.

Student 2: Why.

Student 1: The questions that posted in the group and in the lecture will help you.

Figure 8.7: An example of students' comments on teacher's booklet on WhatsApp.

8.3.2 Connectivity between students/faculty and social presence:

The finding of the data analysis showed that WhatsApp facilitated connectivity between students-students and student-teacher. The students and teacher social presence on WhatsApp formed a good relationship. In what follows, these subthemes are presented in detail with examples of comments from the teacher and students, WhatsApp messages and classroom observation.

The findings of interviews data analysis demonstrated that WhatsApp offers a convenient environment for keeping users in contact with each other. Two out of five of the interviewed students saw that WhatsApp facilitated the connectivity between students. Student S1W, for example, stated:

> *On WhatsApp, I can communicate with other students fairly.*

Furthermore, it revealed that ease of communication with the teacher was noted by two out of five of the interviewed students. For example, when student S4W was asked about his views of the interaction on WhatsApp, he declared:

> *Now, there is communication with the teacher, you can ask him, you can communicate with him outside the classroom and outside the educational environment.*

In addition, when the teacher was asked about the reasons for using social networking with students, he stated:

> *…the faculty member is not only for delivering educational subjects, but there is a new need, which is the necessity to communicate with the students. This is learning on demand. He [the student] may need to ask a question at any time or communicate concerning information.*

The above posts published by participants in Arabic are translated below:

Student 1: Teacher, would you like to postpone your lesson.

Teacher: … Even if I did, I would send someone to cover me and give the lecture.

Student 2: Ha ha ha. I swear I knew that. ✌

Student 3: with the teacher (…..) you cannot close your eyes.

Figure 8.8: An example of the relationship between the teacher and students.

Furthermore, the data analysis of WhatsApp messages findings showed that the formation of a good relationship between the teacher and students was noticeable. However, in terms of saving time and effort, the data revealed that only the teacher mentioned this concept on WhatsApp case. The teacher considered that WhatsApp facilitated his dealing with students. He commented:

> *It helped me a lot. It helped me to save time. You can imagine the time which it saved to me dealing with the students.*

- ***Receiving feedback:***

Feedback occurred between the teacher and students and between students. So, three out of five of those students mentioned that the teacher posted feedback on their posts. S1W, for example, stated:

[The teacher] gives us feedback and he answers our questions using WhatsApp, saying "this is wrong, go and find the correct information".

- ***Sending course notifications:***

One student mentioned the students and teacher used WhatsApp to send updates about the course, such as task deadlines, exams and the teacher's attendance. In illustration, student S1W said:

We used WhatsApp to receive [notifications] of important things concerning the course, such as the deadline for tasks, the examination dates and whether the teacher would attend or not.

Clearly, from the data analysis of WhatsApp messages findings, the students and their teacher used it to exchange notifications. Figure 8.9 presents an example of the teacher's notifications concerning postponing the next lecture because of his participation at a conference outside Saudi Arabia.


9:02am, 16 Mar – [illegible] لظروف وجودي في مؤتمر خارج المملكة المحاضرة المؤجل للمرة القادمة وتكلفي بتحضير
لتكليف عن استخدامات السبورة الذكية في التعليم مكتوب بخط اليد من كل واحد .. ولا يقل التقرير عن 3 صفحات و3 مراجع

The above posts published by participants in Arabic are translated below:

Teacher: Due to my participation at a conference outside Saudi Arabia, the lecture will be postponed, and each student should provide a handwritten report on the use of smart boards ... at least 3 pages and 3 references.

Figure 8.9: An example of teacher notifications on WhatsApp.

8.3.3 Collaborative learning and teacher teaching presence

The findings revealed a problem of teacher's teaching presence on WhatsApp. This was identified from the data analysis of the teacher's messages on WhatsApp.

The teacher and students used WhatsApp as a platform for collaborative learning. The teacher's teaching presence has a prominent role in establishing the students' group and promoting interaction on WhatsApp. This subtheme highlights of creating works groups on Facebook by the teacher, the benefit of engagement within works groups and students' cognitive presence on Facebook.

- ***Establishing working groups to complete tasks:***

The teacher asked students to do two tasks in this module: writing an assignment about the potential of using social networks in education and participating in discussions and answering questions on WhatsApp. One student, S1W, mentioned that working groups were established for interaction and to answer questions, commenting:

> *[The teacher] divided the students to work in groups for interaction and to answer the questions on WhatsApp.*

- ***Organizing and sharing roles to achieve better output:***

Students in this module worked within groups to complete tasks. To achieve this, the teacher established groups and asked each to choose a leader to organize the work within the group. One student, S3W, mentioned that organizing works in groups would achieve a good result:

> *There is participating. There was a division of work and there was a person who managed the discussion to complete the activity correctly.*

- ***Forming knowledge collectively:***

Furthermore, Two out of five of the interviewed students mentioned that the information and concepts presented by students in activities helped them to construct knowledge collectively. Student S4W, for example, pointed out:

Every one brings an idea … one brings an idea and another one brings a [different] idea, then we collect the ideas and choose the best or integrate all of them into one idea.

8.4 Constructing a Personal Virtual Community on WhatsApp

This theme was divided into subthemes, namely: (1) establishing an entertainment environment in virtual world, (2) developing relationships via virtual space (3) developing students' and teacher's digital characteristic in the virtual world. These aspects are presented in detail, illustrated with comments from the teacher and students and classroom/online observation.

8.4.1 Establishing an entertainment environment in virtual world :

The students' context led them to build their own virtual community. One student, S4W, noted that social networks like WhatsApp assisted Saudis to be open to the world, commenting:

Previously, the Saudi people did not have communication tools like nowadays. Suddenly, we are open to the world through social networks like WhatsApp. So, you find the young and the old, the illiterate and the scholars interacting, everyone is there.

Furthermore, the teacher mentioned that students brought their own cultures to classroom, therefore, social media mediate between these diverse cultures. He stated that:

There is great student variety, there are villages and students from outside Ha'il region, there are intellectually advanced regions like the eastern region. Meaning that there are individual differences, there are different cultural backgrounds, there are different experiences. We are trying to fill these gaps through enriching subjects using social networks and to communicate with the students in order to meet their needs. All this had led to us having to find an environment different from the traditional learning environment.

In addition, the teacher added that the ease of attaining information and its circulation influenced the community culture, particularly among young users:

> *The youth are now confirming that it is easy to get information and to circulate it. Of course this has changed the community culture a lot, the new generations have become different from the old generations in terms of thinking and intelligence and in dealing with information and the level of experience. We can say that civilized communities are transferring to a civilized ladder since the technology has helped some people to make cultural leaps.*

8.4.2 Establishing a virtual entertainment space:

All students considered WhatsApp a place for entertainment. Users exchanging messages by WhatsApp related news, either related to politics or sport, or viewing funny clips or poetry. For example, S3W was interested in poetry, stating:

> *I like stanzas and I share them with my friends on WhatsApp.*

In addition, the teacher mentioned that young users are keen on seeing funny clips and poetry. He commented:

> *The youth are concentrating mostly on stanzas, funny clips and on searching for some educational subjects which might help them.*

In addition, S2W, for example, liked sports:

> *Most messages were about sports. I like following the sports news. You cannot imagine the number of messages I received if my team won or lost.*

Moreover, S3W wanted to be kept informed with the latest news and mentioned:

> *Sure, I use WhatsApp… to see what is going on the world and the news… But if you compare it with Twitter you will see the difference [in terms of news].*

Furthermore, S2W mentioned that religious messages are common in WhatsApp:

I use Twitter and WhatsApp more for obtaining and exchanging religious information… there are a lot of religious messages on WhatsApp.

Besides: the findings shown that one student out of five saw that WhatsApp only offers a place for users to take part on dialogue particularly on leisure time. Student S1W mentioned that:

They [users] talking and dialogue at the WhatsApp is the most, the users want only the dialogue, and there is no academic relation, only on free time, it is a good tool, but most of people use it for talking and dialogue only.

8.4.3 Developing friendships in the virtual space:

- ***Making friendships with students at the classroom:***

The interviews analysis found that two out of five of the interviewed students thought that WhatsApp gave them a chance to know other student. Student S2W noted that:

I have new friends in my group. I met someone I did not expect us to be friends someday.

- ***Social communication with friends*:**

From students responding to the interviews questions I found that two out of five of the interviewed students used WhatsApp to communicate with their friends. Student S2W for instance remarked that:

It is used for social communication with friends.

In addition, the teacher referred that WhatsApp supports the continuous communication with friends. He stated:

There is friends and colleagues whom I would like to be in continuous communication with.

8.4.4 Developing students' and the teacher's digital characteristic in the virtual world

- ***Digital identity on WhatsApp:***

Two out of five of the interviewed students mentioned about the identity on WhatsApp, which might be different from the real identity. In illustration, S1W commented:

> *Users' characters on WhatsApp is different from the real character, there is a difference between these two characters.*

In addition, the observation of WhatsApp showed that any details on the profile provided by users, such as status and images, reflected their identity (see Figure 8.10).

Figure 8.10: An Example of the relation between images in the users' profile and identity.

- ***Real identity on WhatsApp encouraging students to respond:***

In contrast to Facebook, students prefer to interact on WhatsApp because the students used their real identities. The users registered on WhatsApp by using their personal contact numbers and thus others can identify them. For example, S1W mentioned:

> *On Facebook, when received a message , you will see only the message without the full name of the person [student]. But on*

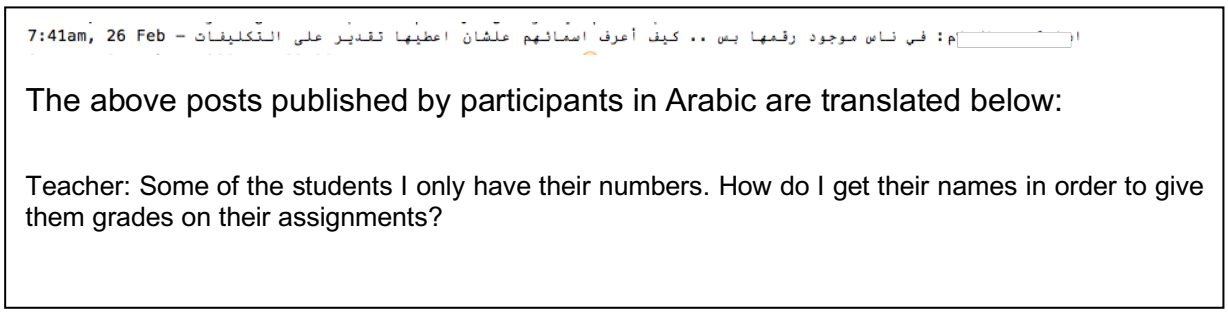
WhatsApp you can know the student [because you have his details] and you can respond… Working with the person you know is better.

- ***Anonymous Identity preventing student interaction:***

Students reported that they were not comfortable dealing with strangers or unknown persons. S1W, for example, did not prefer working with unknown students because he expected to see contradictions between their real and false identities and he commented:

If I am in a group and I don't know anyone of them, someone may use a character different from the real character, so there will be contradiction and this thing starts to spread between the people.

However, observation of WhatsApp showed that the teacher could not evaluate students' work on WhatsApp and he was confused about students who participated on WhatsApp groups without revealing names (see Figure 8.11). This issue arose because the teacher or students did not add those students to the contacts list. The teacher posted as shown in Figure 8.11.


7:41am, 26 Feb – في ناس موجود رقمها بس .. كيف أعرف اسمائهم علشان اعطيها تقدير على التكليفات :م

The above posts published by participants in Arabic are translated below:

Teacher: Some of the students I only have their numbers. How do I get their names in order to give them grades on their assignments?

Figure 8.11: Teacher's comments about unknown identities on WhatsApp.

- ***The supportive use (peer support)****:*

The data analysis showed that one student, S2W, saw that in contrast to the classroom, some students on WhatsApp supported others in work groups:

On WhatsApp, the students interact unlike the class environment. Sometimes one member of the group may not understand a specified topic and you can find a person who gives him useful information.

8.5 The Benefits of Using Facebook in Education

This theme is divided into sub-themes, namely: (1) online discussion and students' cognitive presence (2) improve students' learning and (3) the influence of WhatsApp on students' characteristics. In what follows, these subthemes are demonstrated in detail with illustrations of comments from the teacher and students, Twitter messages and classroom observation.

8.5.1 Online discussion and students' cognitive presence

The data analysis identified two types of online discussions on WhatsApp: synchronous and asynchronous.

- ***Synchronous discussion***

Synchronous discussion was an affordance of WhatsApp that allows students/faculty to communicate online. On this course, students were asked to complete activities using WhatsApp. They used it as a platform for real-time discussion. One of activities requested by the teacher was answering questions related to information presented in the classroom (PowerPoint). The teacher, at the end of the presentation, asked students some questions related to the topic to enhance their understanding. He advised students to use WhatsApp to engage in discussion. For instance, the teacher asked students to answer this question:

What are the reasons for using multimedia in education?

The teacher asked each group of students to communicate on WhatsApp at the same time in the class to do the activities, but in many cases he faced obstacles that prevented such activities, stating:

I asked students to use WhatsApp in the classroom to answer the topic questions, but on many occasions we could not to do this activity because of the Internet connection.

- ***Asynchronous discussions:***

There were also asynchronous discussions on WhatsApp. Three out of five of those students stated that they answered questions asynchronously, so that each student posted an answer at any time outside the lecture. S1W reported:

I have benefited from the interaction, once he [teacher] writes the question, after an hour all students answer the question.

8.5.2 The Influence of WhatsApp on Students' character

From the data analysis only one idea mentioned by participants about the influence of WhatsApp on students' character.

- ***Overcoming Shyness:***

Two out of five of the interviewed students noted that the use of on WhatsApp in education might affect users' identities. Some pupils are shy in the classroom, but on WhatsApp they participated effectively. S1W, for instance, stated:

There are some barriers between me and between the students which we overcome by WhatsApp, but I can't talk with them in an ordinary session in the class.

In addition, S4W reported:

In the class, there is a feeling of shame from committing a mistake before colleagues by a word or anything. Feeling that all are looking and feeling not free in front of colleagues. But on WhatsApp, the students interact better.

8.6 Summary of the Chapter

This chapter was devoted to the pedagogical affordances of WhatsApp. Various aspects of the teachers' and students' use of this social media network were highlighted and discussed. The first part of this chapter presented the technical aspects of this affordance, namely, the ease of use and the open-close groups. The simplicity characterizing the WhatsApp interface and the ease of accessing it were highlighted, which are helping factors for both students and teachers to interact within its space. The ease of inserting multimedia features and links on its space and making private groups are illustrated with quotes from the interviews. I elaborated with both teachers and students for the sake of arguing the role of WhatsApp for educational purposes. Illustrations were also provided from the messages exchanged between teachers and students in order to highlight the role of WhatsApp in enhancing collaboration for educational purposes.

Afterwards, pedagogical affordances of WhatsApp were accounted for in terms of the social construction of knowledge. Then, the concept of connectivity between teachers and students on WhatsApp was also discussed for the sake of arguing the role of this social media network in bringing both teacher and students together in order to share elements of knowledge like guiding, sharing lectures, receiving and giving advice for students. as well as the synchronous and asynchronous types of online discussion. The next chapter will be devoted to the discussion of the findings based on the data I have provided.

The benefit of using WhatsApp in ICT module and issues like online discussions were also discussed in order to grasp their effects on the students' educational issues, and in this frame synchronous and asynchronous online discussions were

presented to the readers. Finally, constructing a personal virtual community on Twitter were presented in derails.

9 CHAPTER NINE: DISCUSSION

9.1 Introduction

This study was conducted to explore the perceptions of Saudi Arabian students' and teachers' of social media affordances at the University of Ha'il. The importance of the current study stems from discussing the impact of social media networks – namely Facebook, WhatsApp and Twitter – on higher education in Saudi Arabia. As mentioned, this case study regards the students as well as the teachers at the College of Education of the University of Ha'il. For this reason, both the interactions and perceptions of the students and teachers were collected and analysed. I have adopted case study methodology to explore students' and teachers' perceptions of the pedagogical affordances of the three social network sites in a higher education context. Accordingly, this chapter will be divided into three parts: the pedagogical affordances of social media and the extent to which these affordances provide help, support and feedback for students in the educational context of Saudi Arabia, and some recommendations and suggestions for a better application of social media networks in Saudi Arabia for purely educational purposes. These three aspects will be accounted for in the light of a literature review, the findings of the study and the outcomes of the research. Thus, the study seeks to answer the following research questions:

1. What affordances do students and teachers perceive from the use of social media in higher education?
2. How does the students' prior experience with social media influence their use of such media in the Education and Communication Technologies module?

3. What are the views of students and teachers of the benefits of social media networks for teaching and learning?
4. What are the potential impacts of social media on teaching and learning in higher education?
5. How is digital identity constructed and perceived by students and teachers?

In this chapter, I seek to identify the use of social media in the ICT module at the University of Ha'il from the students' perspectives. The findings demonstrate the evidence of technical and pedagogical affordances and digital identity development in social media.

The data were collected from interviews with teachers and students and observations of classrooms and interaction on social networks (Twitter, Facebook and WhatsApp). In this chapter, the findings of the study are presented in order to answer the research questions.

9.2 Answering the Research Questions

This section provides brief answers for each research question from the study findings presented in Chapters Five through Eight. As the Findings Chapters are quite lengthy, I believe that it is important to summarise the findings related to each research question before I start discussion and interpretation in order to put the findings together and prepare the reader for the important issues that are going to be discussed in this chapter. The aim of the section is only to put findings related to each research question together, while the second section interprets and discusses the main findings against the theoretical background in the light of the existing literature.

9.2.1 Research question one

“What affordances do the students’ and teachers’ perceive from the use of social media in higher education?”

The themes that emerged from the data analysis answered this question. The findings in this study indicated that social media bring with them considerable technical and pedagogical affordances. Students and teachers showed awareness of the technical and pedagogical affordances of social media, indicating their knowledge of social media’s technical affordances and what they can offer in the practice of teaching and learning. The pedagogical affordances in this study can be conceptualized as connectivity, collaboration, social construction of knowledge, and reflection.

With regard to Twitter, the findings showed that the simplicity of the Twitter interface and open and closed accounts are the main technical affordances. Students saw that the simplicity of the Twitter interface helped them to create accounts, save their posts and create hashtags. In addition, the 140-character limit and the favourite and retweet buttons were considered affordances, although some perceived the character limit to be a negative feature. The other subtheme was the open and closed affordances in terms of creating private accounts, the ease of following people on Twitter, exchanging private messages and posting comments on tweets.

In Facebook, the ease of using the interface was the first affordance perceived by students. It offers suggesting friends, sharing different kinds of multimedia, filtering posts by using the Like button, self-presentation in the personal profile space, posting personal comments and posting unlimited text.

In terms of WhatsApp, the affordances identified included the ease of use and simplicity of the WhatsApp interface, the ease of access, receiving notifications of incoming messages, the ease of inserting multimedia and links on WhatsApp, setting up private groups and receiving private messages from the teacher and other students.

9.2.2 Research question two

"How does the students' prior experience with social media influence their use of such media in the Education and Communication Technologies module?"

The findings showed that students had previous experience of using social media for multiple personal purposes. For example, they used it frequently to create their virtual worlds by communicating and getting news. The results showed that the three major social media – Twitter, Facebook and WhatsApp – were used by students in their daily lives. Students believe that social media are important today and this gives us an indication of their potential use in higher education. However, when comparing the three social media types used in this study (Twitter, Facebook and WhatsApp), I found that there are differences in terms of the quantity and quality of messages on these social media, at least partly because of the influence of the teachers' social and teaching presence on the students' social and cognitive presence. Furthermore, the use of social media in the educational process is influenced by the extent to which students prefer one specific tool over the others. The results showed that the students preferred to use Twitter rather than Facebook and WhatsApp. These findings directly suggest that previous experiences play a crucial role in shaping students' perceptions of the potential for using social media in higher education.

9.2.3 Research question three

“What are students and teachers’ views of the benefits of social media networks for teaching and learning?”

In addition to students’ perceptions of the pedagogical and technical affordances of Facebook, the analysis of the interviews and classroom and social media observation revealed that the participants in the three cases of Twitter, Facebook and WhatsApp valued the use of social media in the ICT module to the extent that it helped in achieving the lesson’s aims. However, when comparing these three cases, the findings showed differences in terms of students’ perceptions of the value of using social media in education.

Regarding Twitter, participants believed that it helped improve students’ learning, stimulating student-centred learning, increasing their knowledge and understanding, developing their language skills, giving time to think before posting comments and helping them to focus on lectures because the presentation of the lecture would be placed on Twitter. Moreover, it helped students to complete the ICT module activities and evaluate the work of their peers. Students, furthermore, benefited from Twitter in completing their learning outside the classroom by engaging in discussions and completing activities at the appropriate time and place. The students saw Twitter as a stimulating environment that changed the traditional learning environment, so it contributed to changing learning routines. This may explain the students' belief that Twitter complements the traditional method of teaching in the classroom. In addition, it is clear that participants using Twitter recognized the technical and pedagogical affordances of Twitter, so they benefited from its assist in achieving the goals of higher education.

With regard to Facebook, it seems that the students' perceptions of Facebook's technical and pedagogical affordances affected their views about the value of using it in the ICT module. They saw that it promoted student-centred learning, developed their dialogic skills, gave time to think before posting comments and developed the skill of evaluating others' work, as well as helping them complete lesson activities. But, comparing the findings for Facebook and Twitter, I found that students on Twitter experienced greater value from using social media in education. This may be because most of the students using Facebook did not have experience or an account before this course and thus the extent of their use of it in the ICT module was negatively affected. Furthermore, from the classroom observation, I found that some students encountered some difficulties in dealing with Facebook, which could partly explain the difference between the Twitter and Facebook groups regarding the perceived benefits of the use of social media in the ICT module.

With regard to students' perceptions of WhatsApp, students saw it as stimulating learning because it facilitated access to information, saved time and effort, gave them time to think before posting comments and helped them complete lesson activities. Therefore, students saw learning through WhatsApp as enjoyable. However, as mentioned earlier, when comparing students' views among the three groups, the results showed that students in the WhatsApp group had less awareness of the value of using social networks in education.

9.2.4 Research question four

"What are the potential impacts of social media on teaching and learning in higher education?"

The themes that emerged from the data analysis answered this question. Both students and teachers faced several challenges in using social networks in education. The challenges in this study can be conceptualized as community challenges, personal challenges, pedagogical challenges and technical challenges. These challenges were presented in detail earlier.

9.2.5 Research question five

"How is digital identity constructed and perceived by students and teachers?"

The themes that emerged from the data analysis answered this question. The students' context and the technical and pedagogical affordances of social media encouraged students to construct their own virtual community. The students benefited from social media as it aided their understanding of the development of their digital identity and perception of their agency in overcoming shyness, being more active in learning, increasing confidence, reducing stress, feeling more comfortable in learning, developing the sense of seriousness and enhancing enjoyment in learning. The social media also increased awareness of the relationships between their identity development, their understanding of agency, and their recognition of technology affordances.

In conclusion, this chapter helps understand the phenomenon and provides in-depth details that assist us in answering the research questions. In the next chapter, the findings are discussed in light of the students' and teachers' views, the literature and my own views towards answering the research questions in greater depth.

9.3 The Affordances of the Three Social Media Networks

In summary, the main pedagogical affordances revealed by this case study of the impact of social media networks on higher education in Saudi Arabia are these:

social construction of knowledge through reflection and stimulation, connectivity between students and teachers as well as cooperation amongst the students in what regards their educational issues. The pedagogical affordances of social media networks are actually emphasized in the context of higher education in Saudi Arabia. Connectivity between teachers and students is a key factor contributing to collaborative learning that is vital in all levels of education as is revealed in new aspects of constructing knowledge in the context of Saudi Arabia. Figure 9.1 presents a conceptualization of the affordances revealed from this case study, and it will help the reader to get a clear idea of the key pedagogical affordances as well as their multiple aspects or sub-keys represented and supported in this chapter.

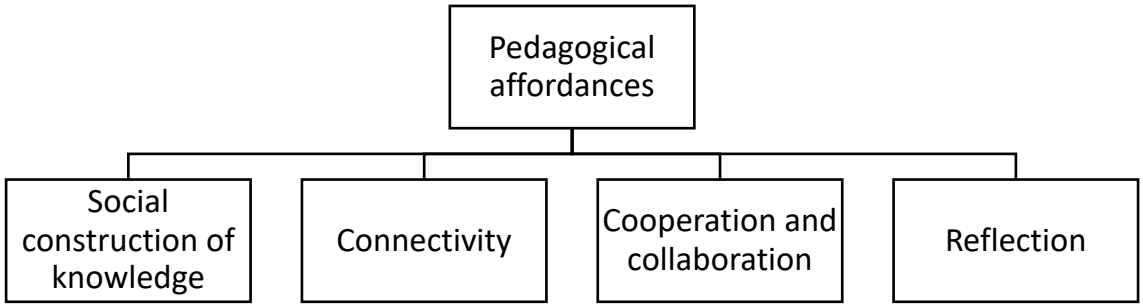


Figure 9.1: Pedagogical affordances of social media.

9.3.1 Social construction of knowledge

Social construction of knowledge is one of the pedagogical affordances of the social networks studied (Twitter, Facebook and WhatsApp). The findings indicated that the interviewed students use social media as a platform for posting different kinds of multimedia. To illustrate this point, students and teachers worked together to construct knowledge and share information through sharing videos, images, links, asking and answering questions and sharing lesson presentations. And these activities are consistent with the results of (Conole and

Dyke, 2004) who stated that the information and knowledge built and shared among students through discussions on social networks can be easily accessed and built upon.

In addition to the analysis of the data I have collected from the text analysis performed on students and teachers posts on their pages in the social media networks. I have also examined the data provided by the semi-structured interviews. From analyses and the interviews, the finding is that the significant role of social media networks in shaping and constructing knowledge has become even more evident. Meiselwitz (2016) argued that the social systems, such as Twitter, Facebook, Telegram and LinkedIn, are extremely popular nowadays and possess billions of user profiles that are aimed at different goals. Some profiles are directed at providing the most effective platform for interacting with other people, some aim to provide all types of information and knowledge, and others are used for business and marketing purposes. There are many sources of users' motivation which are inseparably connected with the user's social and personal values as well as with the sociocultural context. All these factors influence the character and content of users' posts published via social systems.

The findings also revealed that the interviewed students complained about Facebook advertisements. They contain images that are inappropriate, and Saudi students are forbidden to use Facebook because of religious and cultural issues. I agree, in the matter of fact, that the construct contents are the first and most significant aspect of the contribution of social media networks. This content comes through the principle of sharing videos, images, texts of different kinds, assignments, documents of various kinds. Through the analysis of the postings on the students' blogs and pages as well as those of the teachers, I have come to the conclusion that through the active participation of the students (active

agency) and teachers (by empowering students' agencies) at the College of Education at the University of Ha'il, content items are actively created and processed. So I can claim that students' and teachers' perceptions about the technical and pedagogical affordances of social media have shaped their identities and agencies when they used social media to socially construct knowledge for teaching and learning. It seems that the finding of this study is consistent with one of the findings of Al Ibrahim's (2014) study that was conducted among female students at King Saud University in Riyadh. She found that content creation was one of the pedagogical affordances of social media that helped students to accomplish activities. Furthermore, Abu Seilik and Al Zabon (2013) found that students believe social networking is definitely a source of knowledge, due to the ease of access and exchange of knowledge and information in various forms. The results of these studies show that the construction and sharing of knowledge is an obvious educational affordances of social media, which can be used to achieve the goals of the curriculum through access to and sharing of resources. What characterizes social media is the ability to save posts in all its forms (videos, images, links, text). Thus, all possible sources and comments that were shared in social media can be reviewed at any time in order to complete the tasks required in this course.

The second affordance of social media networks revealed by this study is the collection of information related to the educational purpose. Generally speaking, a major issue of the educational process is based on the collection and processing of information. The interviewed students indicated that through Facebook, Twitter and WhatsApp information is often collected easily and exchanged which contributes to the improvement of the students' educational

performance as well as their dependence on the use of social media networks as primary sources of information.

According to Blair and Serafini (2013), content development can be done by creating professional profiles on the social media networks. By creating their own profiles, students can improve and develop resources and find feedback on the fields they are interested in and which serve to complete projects, papers, and so on. For Saudi students, it is important to note that social media networks are actually used to enhance the sharing of the content through exchanging ideas and answers for the questions they are looking for and this actually contributes to enhancing the content of the module.

Through cross-case examination of the findings in this study, I found that in the cases of Facebook, Twitter and WhatsApp, teachers and students shared and constructed knowledge and information. The questions and feedback related to the lesson topics or the students' questions helped to gradually build a question bank regarding the crucial topics in the ICT module. I assume that the questions posted on social media by the teacher and students fostered the latter’s understanding of the content of the ICT module subjects. Moreover, students in all groups pointed out that the questions aided them to revise all subjects to prepare for the final tests.

In addition, the sharing of videos, images and web links amongst teachers and students (whether related to the lesson topics, related activities, or enrichment of information) promotes learning and assists the students in two ways. First, it facilitates students' comprehension of lesson topics. Second, it helps them to complete the activities (the production of an educational resource and assignment). Unsurprisingly, there were no differences between the Facebook,

Twitter and WhatsApp groups regarding the knowledge and information shared and constructed by the students under the supervision and encouragement of the teachers, except for the organizing of content, which was more organized on Twitter and Facebook than on WhatsApp. This difference is due to the fact that each topic on Twitter and Facebook is allocated a new page, which includes questions and presentations related to a lesson, to facilitate students' access and participation.

From the perspective of sociocultural theory, knowledge is constructed by interaction and the sharing of knowledge among community members (Vygotsky, 1978) and that is what I noticed through the students' use of social media in the ICT module. Facebook, Twitter and WhatsApp gave students the opportunity to communicate and share ideas and educational materials, including video, images, texts and links. I actually remarked that, from a content analysis of the texts of discussions on the social media I did for the students' blogs as well as from their answers, students are mostly attracted by the ease of access and signing in or out of a wide variety of sites, blogs and web pages which may be helpful for them to accomplish their research and find the relevant information that they actually need to develop their module tasks.

Furthermore, it was noted that the students' role in this study was effective in terms of knowledge construction, because they had the authority to choose educational content, which probably helped them accomplish their tasks under the supervision of the teacher.

In addition, the teachers' identity and role in the classroom differed from that in the three social networks. They used their authority in the classroom as teachers when selecting the content that they wanted for the students, but on social media

the students had ownership of their learning in terms of selecting and sharing the information that would help them develop their own individual educational experience. It seems that social media in this regard promoted students to be active agents in control of their learning.

9.3.2 Connectivity

Throughout the analysis I provided for the data obtained, the issue of connectivity arose as an important affordance thanks to its value for students seeking to improve their educational performance. Connectivity makes the social platforms new educational engagement environments. In this sense, Van Dijck (2013b) believes *"the widespread presence of platforms drives people to move many of their social, cultural and professional activities to these online environments*" (P.4). This move actually began when the World Wide Web was invented in 1991 and has not stopped. Social media platforms like Facebook, Twitter and WhatsApp are widely used by people to get connected, and for this, a new culture of connection is produced. In fact, findings from this study showed that Saudi students used social media platforms to get in touch with each other and interact effectively, particularly for educational purposes. In this sense, the communicative dimension of social media networks is highlighted, and through the students as well as teachers' answers. Facebook, Twitter and WhatsApp are widely used for communicating, and this is enhanced by their shared educational activities such as the preparation of classroom projects and assignments, which drives many of them to get connected via synchronous or asynchronous online discussions. Most of the students at the College of Education at Ha'il University commented on their use of social media networks as purely communicative.

Here, communication comprises student-student communication and teacher-student communication. Online chatrooms are confirmed to be used by students to get in touch with each other and know about the educational issues they are required to submit or participate in. Chat in this sense is not regarded as only a leisure or entertainment activity, but a means to bring students together for learning. Additionally, accounts which can be created easily on any of the aforementioned social media platforms are widely used by students to elaborate a fruitful and reliable exchange of information concerning most of the module activities, including the preparation of assignments (collective paper), exposition of presentations (developing an educational resource based on instructional design principles), tasks and lectures to benefit all students registered in the blog. In answering the interview questions, students confirmed that using social media platforms, namely Twitter, WhatsApp and Facebook, enhanced and facilitated communication between students and with teachers, who formally carry on the duty of supervising and guiding, which can be elaborated through contacting students on social network platforms. Accordingly, the interviewed teachers at the College of Education confirmed that using social media platforms helped them establish reliable and fruitful connections with students outside the ordinary classroom environment.

In this sense, Yamashiro and Noam (2013) argue that over the past five years, tools of technology, including social media networks and smartphones, gave birth to a new relationship between students and tutors, and through exchanging e-mails, they can communicate effectively in an informal but practical way.

Social media networks are also reported through the answers of the Saudi students as a practical means to receive feedback. Various interviewed students revealed that they can ask for and receive the feedback they need for the sake

of improving their educational performance. This feedback is two-sided since it occurs and can be realized between students themselves and between students and teachers. WhatsApp, for instance, is widely used for this purpose since teachers can interact with students easily and faster by posting answers to students' questions. Moreover, this type of interaction frequently happens either synchronously or asynchronously between students and teachers. Furthermore, this kind of interaction contributes to the transfer of educational capital towards developing relational capital for both teachers and students. The issue of connectivity includes sending and receiving notifications regarding the courses or lectures. Various students at the College of Education expressed their usage of social media platforms like Twitter, WhatsApp or Facebook for purposes of getting in touch with the module activities and the news related to them. This is crucial since it enhances the role played by social networking in assisting and supporting students as well as teachers in their studies and educational performance. This variety of services provided by social media platforms revolutionized generation of the content. In this sense, Consoli (2012, p. 2) argues,

> *"Until a few years ago, users read only, in a passive manner, information from websites but now they have the opportunity to actively insert information, graphics and multimedia objects. The user can create contents, movies, express opinions and give advice using different Web 2.0 tools: digital video, blogs, podcasts, wikis, Flickr, YouTube, Facebook, Wikipedia".*

This makes the student user of social media sites not only a consumer of multimedia devices but also a creator and generator (Sfard,1998) of the culture of social networking for educational purposes.

9.3.3 Reflection

The pedagogical affordance of reflection was reported in the students' interaction.

Students in this study had time to reflect on teachers' posts and questions and students' posts, commenting asynchronously on social media. This finding is in line with Conole and Dyke (2004), who noted that new technology (in this study, social media) encourages students to reflect and critique, as the time available for students to interact asynchronously with other students allows them to think about the quality of participation more than in face-to-face discussion. In this study, both the time and space offered by social media affected the quantity and quality of students' reflection.

It was found that the students' reflections were neither critical nor in depth. This finding of the lack of critical reflection concurs with Al Ibrahim's (2014) research. Moreover, this result partly agrees with Clements (2015) finding in terms of reflection; he found that students are more likely to demonstrate critical reflection when engaging with content and discussion on social media. The cross-case examination shows that the students in the Twitter group reflected on the video clips, images, activities, student presentations, and teacher's questions and the working group. Although reflection was noted in all cases, the quality of reflection was not high. In my view, there may be several reasons for the lack of in-depth critical reflection.

First, I found that the quality of reflection in the three cases (Twitter, Facebook and WhatsApp) differed. This result is consistent with Osgerby and Rush (2015), as students on Facebook and WhatsApp had more space to write information in detail. These technical affordances of Facebook and WhatsApp gave students in the two groups a space to reflect in detail. However, the students who used Twitter were restricted to 140 characters per message, which prompted them to

find other ways to resolve this issue. In this regard, the students showed awareness of the technical affordances of Twitter and how they could modify it in order to reflect. In other words, the affordances of sharing photos allowed the students to overcome the problems of the 140-character limit by writing what they wanted in the Notes program and then taking a screenshot and sharing it on Twitter. I can argue that the character limit on Twitter made students' reflections more focused than those on Facebook and WhatsApp. I consider this issue worthy of further investigation to identify the extent to which the scope and limitations afforded by social media affect the development of critical reflection or improved writing.

Secondly, I found that the quantity of reflection in the three cases (Twitter, Facebook and WhatsApp) differed. Students' answers and reflections on Facebook and WhatsApp were more detailed than on Twitter. The teachers in this study encouraged students to reflect during the evaluation of student work in the classroom. However, on social media, the social and teaching presence of the teacher on Twitter was more than that of the teachers on Facebook and WhatsApp, which made students on Twitter more enthusiastic about reflecting more other social media in this module.

Moreover, I believe that many factors, such as the role of teachers and students' preference for using specific social media, may have some impact on the quantity and quality of students' posts. In addition, students' preference may have affected reflection on Facebook and WhatsApp because Saudi students prefer to use Twitter in daily life over other social media tools. This reflects Osgerby and Rush's (2015) finding concerning preference, namely that "many students expressed a strong preference for using Facebook rather than Twitter particularly for group work" (p. 342). This indicates differences between world cultures in terms of

preference for using a specific social networking tool over another. From my experience, I found that Saudi society prefers to use Twitter, WhatsApp, Snapchat, Instagram, and Facebook, respectively, while other Arab communities, such as in Egypt and Jordan, and Western societies prefer to use Facebook.

Furthermore, one of these concerns was the society's culture and customs students brought with them to the use of social networks in the ICT module. The findings showed that (60%) of the interviewed students considered community beliefs are inherited from parents and the society's culture. Also, (40%) of the interviewed students mentioned that the community holds negative views concerning Facebook and its users. These results consistent with Peachey and Withnail's (2013) research, which argued, "We bring elements of our physical selves and culture into the virtual world". In my experience as a member of Saudi society, many students grow up in an environment that fosters showing respect and not criticizing others, especially elderly people. This culture may become part of students' daily life and thus reflect on their behaviour in education. Therefore, it is noticeable that students are more conservative when coping with teachers and other students in classrooms and social media. Also, students are used to studying in conventional education which emphasizes the teacher-centred strategy of teaching, or what I can term *teacher-generated reliable content*, which may have an impact on critical reflection skills.

Another possible reason is the students felt that criticizing others might be taken as a personal criticism, so most students' reflections on other presentations or comments were expressions of gratitude and appreciation. This issue, from the sociocultural perspective, can affect the learning process. According to sociocultural theory, learning occurs at two levels; first as social interaction with others and second internally, with the learner internalizing the knowledge. In light

of the findings of this study, I consider that there is a deficiency in the first level as a result of the culture of not criticizing, which leads to the lack of critical reflection at the second level.

In conclusion, the social media environment provides an opportunity for students to reflect on their learning and activities; therefore, it is important to consider both the technical affordances and culture of students' society when planning to adopt social media in education. In addition, it is important to encourage students to reflect critically instead of participating only to be seen to participate, and train them to acquire critical reflection skills. Finally, the relationship between the teacher's social presence on social networks and students' reflection is a crucial factor that may influence the implementation of social media in higher education.

9.3.4 Collaborative learning

From the findings related to collaborative learning and working with other students who used social media in their learning presented in Chapter Five, it was shown that 40% of interviewed students confirmed having difficulties working with some students on Twitter. They mentioned that some students working within groups did not improve or participate at all. Accordingly, 40% of them did not prefer to use Facebook but instead preferred to work individually, believing the final work would be better. This result is due to several factors, such as lack of knowledge of using social media, as the teacher demonstrated that some students had experience using social media while others had nothing to do with the Internet. Also, the findings showed that most of the students did not favour the use of Facebook as a learning and communication tool, and most of the interviewed students confirmed that they had problems in arranging appropriate times to meet with each other on Twitter to do the tasks within the work group. Further, a lack of motivation was a factor that influences use of Facebook. Eighty

percent of the interviewed students said that they do not have a motivation to use Facebook, and, as reported by a few students, this may be due to families discouraging the use of Facebook. This result is consistent with the findings of (Alfelaij, 2015; Al Ibrahim, 2014; Hassan and Landani 2015) research which indicated that social networking provides a supportive environment for collaborative learning, enabling communication, discussion, sharing of resources and information, creating new content, exchanging ideas, and learning from each other. Through student interaction and knowledge sharing in the collaborative learning environment, the performance of the active groups led to the completion of course work on social media. Eid & Al-Jabri (2016) found a relationship between knowledge sharing and the level of learning performance. Furthermore, students in the course shared information and received feedback from teachers and other students. The support they received was a form of educational scaffolding (McLoughlin and Lee, 2007), promoting students' learning.

The research findings in the literature in this area seem contradictory regarding the possibility of using social networking as an appropriate platform for collaborative learning. For instance, Hilal's (2015) study at Damanhur University in Egypt found that students believed the use of social networks did not help achieve the goals of teamwork. He considered this might be due to the students' lack of knowledge concerning how to use social networks within teams. Therefore, it is not surprising to find the groups across the three cases did not benefit from the collaborative pedagogical affordances of social media.

The use of social media in the ICT module facilitated the work of teachers in community formation and grouping. Students in the three cases were distributed during the lecture into groups to complete the module tasks (developing an educational resource based on the instructional design principles and writing

assignments). Teachers used their authority as a teacher in the distribution of students to groups randomly; at the same time, they empowered the working groups to take control of their learning through collaboration. Each group selected a group leader responsible for organizing the teamwork, distributing tasks between students and monitoring students' progress. I agree with the teachers' approach theoretically. According to the sociocultural perspective, individuals develop their expertise through social interaction in a collaborative manner. In the interviews, the students mentioned that they got used to working with the same group of friends. This might limit the extent to which they took advantage of collaborative work with new people. I claim that interaction with new people may help students gain new experiences to a greater extent than working as accustomed with friends. The acquisition of knowledge from different sources and individuals can lead to the expansion of the knowledge base and the development of capabilities to handle new ideas and experiences, which leads to the development of cognitive and learning performance.

Additionally the findings show that social networks provided a virtual collaborative learning environment for students and promoted collective agency by enabling them to control the behaviour or actions among working group members: the students choose the time and place to share and determine the quality of posts (video, photos, links and texts). These actions helped build their knowledge within a collaborative environment and to determine the information needed to complete the ICT module tasks. Suthers (2006) claims that one of the most effective ways used by members of any knowledge-building community to enhance the current amount of their knowledge is regular contemplation on what hinders their iterative accumulation of necessary information as well as the development of effective plans to overcome such obstacles. Consequently, it can be argued that students

who utilized this medium seemed to hold an active agency because the nature of the activities required collaborative work and integration with the group to achieve the desired acquisition of knowledge and outcomes. The commitment and responsibilities of the team and working as an active individual leads to a sense of community. Jäkälä and Berki (2013, p. 2) argued:

> *The sense of community is one of the important social features that shape both the social qualities of an online community as well as activities and behaviour of the community members.*

However, in some instances across the three cases, I found some students did not interact with their colleagues and were present in the group only in name; this constitutes what I term *passive agency*, or what Bandura (2001, 2006, as cited in Code, 2013) calls "*proxy agency*". Those students tended to rely on others to carry out the activities on their behalf. The emergence of such cases may be due to their belief that the activities would be completed by others, with or without their participation. To overcome this problem, the group leader needs to exercise his authority and ask and motivate students in the group to participate in completing the activities on time. Group leaders in this respect played a role as agents of change to overcome issues and enhance the sense of the group's collective agency. Collective agency, as defined by Bandura (2001, 2006, as cited in Code, 2013, p. 49), "relies on people's shared beliefs in their collective power to attain desired outcomes". This means students work together to achieve specific objectives, considering the advantage of the capabilities of each student which others may not have (Code, 2013).

Another finding of this study concerned variation in the degree of benefits derived from the pedagogical affordances of the social networks across the three cases, Twitter Facebook and WhatsApp. For example, I found that students' participation within the working group on Twitter was greater than that on

Facebook, and the lowest participation was on WhatsApp. Moreover, with the exception of Twitter, the Facebook and WhatsApp groups either did not activate working groups properly or use them at all, although all the groups completed the lesson activities on time, but without using social media. A study in a similar context found that students are more likely to engage in discussion outside social networks (Al Ibrahim, 2014). In further explanation of this finding, in the interviews, students mentioned that they had no prior experience in using social networks in education. In addition, the aim of working groups and the grading scheme was unclear. This may explain the lack of participation in the teamwork, specifically on Facebook and WhatsApp. In addition, the teachers in the Facebook and WhatsApp cases did not monitor the teamwork online as required, although in the classes, they did encourage students to engage in collective work on the social media. Moreover, some students, as mentioned earlier, relied on others to carry out the activities, whether or not they participated in the group, believing the work would be completed by others. In addition, the culture of dialogue on social media may be a reason for the lack of participation: students may prefer to participate anonymously, they are shy to participate or display passive behaviour.

In another finding of this study, some students thought that the development of dialogue and discussion skills among students required changes in the behaviour of the individual himself, in other words reducing the overpowering identity of the students. According to Jäkälä and Berki (2013), “An overpowering group identity might block communication and create difficulties in promoting participation and innovative ways of thinking” (p. 2). Some students in this study had strong agency, insisted on their own concepts and rejected others’ opinions, which is not consistent with teamwork and cooperative learning. To overcome these

problems, I assume it is important to focus on developing the concepts of teamwork, cooperative learning and the culture of dialogue among students and to control the process of empowering students.

The Saudi Arabian government established the King Abdulaziz Center for National Dialogue (KACND) to develop a culture of dialogue and gain the skills to accept others and their opinions (KACND, 2016). However, through my work at the university as a lecturer, I can argue that the current level of dialogue in the lectures is not in line with this new trend in government policy. It is supposed that university decision makers will play an effective role in developing these skills among students and thereby derive the benefits provided by the KACND training courses and workshops.

Ultimately, students who used social networking for collaborative learning demonstrated the advantages of its technical affordances in developing their knowledge in the ICT module through interaction, despite the difficulties in the proper application of Facebook and WhatsApp. From the sociocultural perspective, students acquired knowledge through discussion in groups, sharing resources (e.g. links, video, images, or text) and receiving feedback. Students were then able to achieve the objectives of the ICT module. To achieve the goals of collaborative learning, it is desirable to focus on the development of a sense of community, which lies in the cognitive presence and social presence of individuals in the working groups.

9.4 Responding to the Sociocultural Theory

From the sociocultural theory perspective, knowledge is constructed by interaction and the sharing of knowledge among community members (Vygotsky, 1978). I observed this interaction and sharing of knowledge through the students'

use of social media in the ICT module. Facebook, Twitter and WhatsApp give students the opportunity to communicate and share ideas and educational materials, including video, images, texts, and links. Using content analysis of the students' posts and discussion texts on social media, as well their responses that they are mostly attracted by the easiness of access and ability to sign in and out of a wide variety of sites, blogs, and web pages, use of social media may be helpful for students to accomplish their research by allowing them to find relevant information they actually need for the sake of developing their module tasks.

In the matter of fact, students who use social media have the chance to become an editor on social media. This actually makes the student user of social media not only a consumer on multimedia devices, but also a creator and generator (*participation metaphors*, Sfard,1998), of the culture of social networking for educational purposes.

9.5 The Challenges of Using Social Media Networks in Higher Education.

There are four different challenges in using social media for learning and teaching purposes emerging from this study, which include personal, social, pedagogical, and technical challenges. In this section, I discuss some of the challenges that may hinder the use of social networks in education.

9.5.1 Feelings of loneliness and isolation

The study showed that the students had concerns about the use of social networking in everyday life and in education. The students believed that high use of social networks in daily life causes poor social skills in face-to-face interaction. The Internet-based communications have become dominant whereas direct contact has become, in some cases, marginalized among society's members. In

addition, the findings indicated that few students considered that the extensive use of social networking might cause isolation and introversion between community members, and this issue was applied also for WhatsApp as it can lead to isolation and introversion. These findings are consistent with Turan, Tinmaz, and Goktas (2013), who stated that "students believe Facebook usage is damaging to their social skills, especially to their relationships with their friends" (p. 143). Lederer (2012), in addition, showed concern that communicating face to face may be negatively influenced by the new style of communicating through social networks.

Although the use of social media can improve students' learning and writing skills through interacting with other students and teachers, their fear of the negative influence of using social media was transmitted to the field of education. Students believed that the use of social media in the ICT module to complete tasks with other students required each student to interact alone from behind a screen and a keyboard, which could cause feelings of loneliness and isolation, even though there were other students in the same network sharing dialogue and debating with them. This finding is consistent with Liccardi et al.'s (2007) study, which compared interaction taking place online and face to face. They claim that asynchronous contact may be interrupted by waiting for the other party to reply. They stressed that reliance on online interaction could have "possibly disastrous academic consequences" and cause isolation from the surrounding society (p. 232). In addition, they claimed that "the non-verbal cues" that occur in face-to-face interaction enriches communication between individuals (p. 232), which would be lacking while communicating electronically.

The students in this study used social media to a great extent in their daily lives, but experienced feelings of loneliness and isolation when using social media for

educational purposes. This difference in their attitudes needs more investigation. I can argue that this contradiction occurred because students did not have prior experience of using social networks in this educational field. They are accustomed to studying in conventional education, which requires interaction in the classroom and doing homework at home. Therefore, knowing students' prior experience plays a critical role in using social media in education.

Moreover, I consider a key characteristic of the three social media platforms (Twitter, Facebook, and WhatsApp) to be the lack of ability to exhibit real emotions, facial expressions, and body language. In the interviews, students emphasized that these three social networks do not provide the option for online conferencing (*here I should point out that at the time of data collection, there was no online video calling service on the three networks*). This is correlated to the extent to which the sole use of keyboards to interact might cause feelings of loneliness and isolation. The use of *online video calling* may reduce the feelings of loneliness and isolation. Thus, it is important to use other applications besides Facebook, Twitter, and WhatsApp (e.g., Skype) to enhance communication between students and to overcome the negative emotions. This suggestion to use video conferencing is in line with Ke's (2010) finding that students "appreciated the multimodal communication and a strong sense of presence afforded by web conferencing" (p. 812).

9.5.2 Lack of time

The findings showed that lack of time is one of the problems faced by students when using social networking in education because of their overloaded schedules and family obligations. Students had other modules, which required time to tend to, review, do tasks (assignments and homework) and prepare for tests. In addition, some students said that parents, meeting with friends, and in some

cases job responsibilities, consume their time. The findings show that 60% of interviewed students attributed the reasons for the lack of use of Facebook to obligations and academic load, and the difficultly to link students in two environments, because students are under pressure to attend lectures. Based on my knowledge of the nature of Saudi society in Hail, family obligations and daily meetings with friends take up a large portion of students' time in addition to their learning responsibilities. Through observing students' activity on social networks, I found that students posted comments on Facebook, Twitter, and WhatsApp at various times because participation did not have to take place at a specific time. In addition, students indicated that they used social networks continuously on non-educational topics. One possible factor influencing their perceptions is that the ICT module is a supplementary course, so it has not fully attracted some of the students' attention. In addition, lack of experience in the use of social networking in education and lack of time management skills prevents students from allocating time for interaction. Time management and time consumption may prevent some students from interacting on Twitter and WhatsApp.

Moreso, on Twitter, the students said that the teacher's or the students' tweets were received along with other, non-academic messages. Therefore, some interesting tweets may attract students' attention and take them away from the group messages. This finding is concur with Naghdipour & Eldridge (2016) where the students uncomfortable from receiving constant notifications because they consider Facebook to be informal education. Something similar happened on WhatsApp; the notification messages led students to read them and reply, although this happened less than with Twitter. This similar finding was obtained by Fewkes & McCabe (2012). The content on social networks may affect the learning process because it distracts students from their educational objectives.

However, this problem was not reported with Facebook; a possible reason for this may be that the majority of the students had no account on Facebook before the course and they created new accounts for the module. Thus, I claim that students who used their personal accounts in this module were more likely to be interrupted and spend more time on the website for non-educational purposes.

9.5.3 Lack of participation

The aim of using social media in this module was to facilitate discussion and the sharing of valuable comments. As mentioned in the Findings Chapter, the lack of participation, lack of critical posts, valueless comments, and thankful messages prevented students from using social networks effectively for educational purposes.

On the three tools, the students' comments on the classmates' presentations (*an educational resource based on the instructional design principles and assignments*) were neither in-depth nor critical. Most of the comments were appreciation and gratitude. The possible reason for only posting praise comments is that students may see doing so as an expressed approval towards the presenter. Students may believe that appreciation and gratitude comments will encourage classmates during their presentations in the classroom. Additionally, they may have considered that they also have to present their work in the classroom. Therefore, students may not want to receive any negative criticism/comments while presenting. Students, in this regard, could misunderstand the differences between the concept of personal and educational criticism.

In the matter of fact, the fear of receiving negative criticism/comments from others is an issue among Saudi students (Al-Jarf, 2005; Al Ibrahim, 2014). The influence

of the community and educational culture, where the students grew up and studied in, was noticeable. Students in elementary school, who were taught in conventional education settings, are exposed to the view that the outstanding student is the one who does not make any noise, is polite, and subject to the authority of the teacher during lessons. The prevailing view is that critical comments are usually unacceptable from youths.

In terms of posts within the working groups or the matter of asking and answering, the results showed that students' participation on Facebook and WhatsApp were low compared to participation on Twitter. Students state that the teacher's participation online is the cause of their lack of engagement on Facebook or WhatsApp. According to Ke (2010), students do not feel comfortable due to the teacher's presence online with them. I think students might feel uncomfortable and afraid of making mistakes or receiving criticism from the teacher or other students as mentioned above. Another possible reason for the lack of participation is the ICT module's content and its tasks, which was technological in nature; therefore, it is not necessary to use tools such as social networks to deliver the content. This finding corresponds to Cloete et al.'s (2009) conclusion; they indicated that the reasons behind the non-use of Facebook in education was that the course does not need to be delivered online.

From a theoretical perspective, in this study students' participations on social media were influenced by sociocultural context (Vygostsky,1978) in or out of the university setting, which in turn shaped and perceived their agencies and developed their identity. In the context outside the University of Ha'il, it was clear that some students' agencies and identities, across the three cases (Twitter, Facebook, and WhatsApp), were influenced by their culture and customs, so the context drove their online identity (Aresta et al., 2013, p. 82). They constructed

and managed their online identity in line with the digital environment (Aresta et al., 2013). Therefore, I am not surprised when I found students who had problems in participation, especially when they were referring to the discomfort of their teacher's presence online. Whereas, students on the front stage Goffman (1959) who participate effectively in social media seem to be a 'user-driven online identity profile' (Aresta et al., 2013, p. 82) aiming to *impress* teachers and students and guide them to form an image about aspects of themselves that they want to present (Goffman, 1959). Those students sought to construct an identity free from contextual constraints (Aresta et al., 2013).

9.6 Students' Views of Using Social Media as an Educational Tool:

The results showed that there is a divergence in students' views concerning the use of the three popular social networks, Twitter, Facebook, and WhatsApp. Despite the fact that Facebook is the most popular social networking site in the world, the Saudi students at the University of Ha'il, as they mentioned in the interviews, were not willing to use it because it displays certain images and offers new blind relationships for both genders, which is not consistent with the culture of the Saudi community. For example, students reported that they were not comfortable dealing with strangers or unknown persons and did not prefer working with unknown students because they expected to see contradictions between their real and false identities. Also, they did not use Facebook because they receive unsolicited invitations from strangers on Facebook, or what I can call 'lack of privacy'. This standpoint may explain the students' willingness to use Twitter or WhatsApp in this study over Facebook. In this regard, Turan et al. (2013), argue that students see a risk in using social networks like Facebook. They proposed that instructors should take the students' views into consideration to overcome their fears by selecting an appropriate tool for teaching and learning.

This argument is consistent with students' views in this study, where they suggest using tools other than Facebook, or developing a program by the University of Ha'il, providing the same technical and pedagogical affordances of social media, in order to overcome this issue.

In addition, the results showed that some information provided on social networks was not reliable. This finding is consistent with Turan et al.'s (2013) study. They mentioned that we cannot trust all the information presented in social networks. Therefore, the teacher should have an effective role in overcoming this issue. Manca and Ranieri (2014), for instance, found that using social media in education requires a change in the educators' role into information moderators/facilitators in order to achieve the aims of using it in education. Therefore, I can argue that the presence of teachers online is critical when the students share, for example, videos, images, and links.

The results, furthermore, showed that some students believed social media was designed for social networking and not for educational goals. This finding, for instance, agrees with Cloete et al. (2009), who claim that some students use Facebook only for social networking purposes and they did not prefer to interact with other students on Facebook. They, in addition, added that although some students believe it cannot be used as a learning tool, there were other students who saw the possibility of using social networks such as Facebook in education. This may be because students use social networks on a daily basis for different purposes such as communicating with friends, searching or sharing information and resources, or expressing their opinions more than utilizing it for educational purposes. Social media, as mentioned by Rosmala (2012), "helps the user to spread information and express their opinion directly to the others" (p. 159). But, besides these differences of views about the opportunity of using social

networking in education, it must be acknowledged that social networking has become widespread among users around the world. Therefore, and as a result of social media being a part of individuals' daily lives, the chance of success in education is high if it is used by people who are familiar with the technical affordances (Duffy, 2011).

Through what has been presented above, I found that despite the pedagogical affordance of social media, there are some students who think that social media sites are not appropriate tools to be used in education. Students' concerns revolve around several points: the design of social networking; the unreliability of information; and inappropriate content presented on social media (Facebook for example), which is not consistent with the students' culture. I can claim that it is essential for teachers to select appropriate tools that are consistent with the students' preferences, in particular their culture, in order to be acceptable by the community of practise and thus achieve the main goal of using social media in education. In addition, in line with the right choice of social media, I argue that a good instructional design may enhance the students' participation effectively and therefore achieve the desired digital engagement in the social media. Garrison and Kanuka (2004) argue that:

> *…when we have solid understandings of the properties of the Internet, as well as knowledge of how to effectively integrate Internet technology with the most desirable and valued characteristics of face-to-face learning experiences, a quantum shift occurs in terms of the nature and quality of the educational experience. (p. 97)*

Furthermore, it may be appropriate to educate the community about the use of social networking in education and clarify and modify some of the misconceptions about social media.

9.6.1 Online discussion and students' cognitive presence

Online discussion is one of the pedagogical affordances highlighted in the findings. This finding is in line with Naghdipour & Eldridge (2016) study, they conducted a study aimed to identify the affordances of Facebook in learning English. One of the main findings was that students benefited from discussions and from other students participation on Facebook. Students' involvement in activities on Facebook improved their English vocabulary.

The results showed that all the students were involved in the discussions at two levels. The first level concerned individual participation through answering the teacher's questions and the second level constituted collective participation within working groups. At the first level (individual participation), the student bears the responsibility for his activity; he is responsible for the use of the social network to interact with the teacher and colleagues, such as answering the teacher's questions or engaging in discussions of topics determined by the teacher.

At the second level (collective participation), the student works within a team to achieve the general goals of the working group online. Here, he is responsible for collecting, organizing, producing, and presenting content to the group members to come up with the final product (developing an educational resource based on the instructional design principles and writing assignments). This process carried out by the student may promote self-regulation, consistent with Zimmerman's (1990, as cited in Matzat & Vrieling, 2015) point that:

> *[Self-regulated learning] is a form of learning that stimulates the student to contribute actively to the formulation of learning goals, the determination of means, and the evaluation of the reached learning outcomes. (p. 2)*

According to Dabbagh and Kitsantas (2011) students who have been taught to use effective self-regulating learning practices often manage to create highly productive learning environments by enhancing their personal knowledge management skills and sustaining them thanks to the constant usage of different social media.

The results showed the existence of cognitive presence in social networks, with students' inputs classified according to the phases of cognitive presence, as follows: triggering, exploration, integration, and resolution. The degree of emergence of these stages differed depending on the social network used (Twitter, Facebook, and WhatsApp). On Twitter, I found that the four phases were present with a variety of indicators for each phase. In addition, I found new indicators that can be added to the previous work of scholars. However, these indicators have not been shown as required in students posts on Facebook and WhatsApp, respectively.

On WhatsApp, there were fewer student posts in the discussions, so the cognitive presence was lower than on Facebook and Twitter. This may have been due to the rather weak social presence of the teacher, despite the acceptable level of the social presence of students. In addition, WhatsApp does not support threaded discussion and posts in WhatsApp cannot be seen unless one is added to the group. In contrast, on Twitter and Facebook, students can see the other groups' messages. Thus, open groups may enable students to benefit from other groups' experiences.

9.7 Digital Identity

When transposing Goffman's concepts of the front stage and back stage to online environments, students in social media (front stage) attempt to present

themselves through their posts or profiles to be known by others. They aim to direct others to portray a mental image of their desired characteristics of the self or ideal personality. The roles that students play represent how they perceive their agency in social media, which promotes them to engage in online interaction to achieve lesson objectives, which may reflect others' perceptions of their identities in the classroom. However, on the back stage, when students feel they need not play a role in social networks with others, they tend to portray their real selves.

The study demonstrated that students consider social media one of the most important aspects of their entertainment, which means care needs to be taken when planning to integrate these tools in education. For example, some students do not believe social networking can be an educational tool. One factor may be that students wish to keep others away from their virtual worlds to keep them safe from changes which might spoil such worlds. They may also wish to present a different identity.

The use of social media is driven by the culture individuals unconsciously carry because it is part of them. The question is why students prefer to engage in social media more than in the real world. The reason may be that it is not possible for students to discuss everything in the physical world, nor is it possible to discuss everything with the same group, because identity may take different forms depending on the context.

For example, when we talk with friends, the context and the words, phrases and body language are completely different than when dealing with strangers. Therefore, the virtual environment may help users overcome barriers that may be imposed on them by the community, enabling free self-expression and discussion of topics that may be difficult for the same individual to talk about in

another context under the umbrella of a digital identity created in accordance with the goals he wants to achieve. This finding in line with Naghdipour & Eldridge (2016), they found that students on Facebook were not worried about showing personal or privacy information. Seminally, Shane-Simpson et al., (2018) study revealed that Twitter users were the most social users in terms of disclosure of identity, and have a desire to expand the circle of friends, and shown more bridging social capital. Digital identities established by users in their profiles may be under pseudonyms or real names and can include information and images that are consistent with the specific context. As such, the context that surrounds the individual governs personal behaviour, such as the type of friends, comments, images, videos, links, status, profile information and avatars, which may be quite different from those in the real world identity.

The findings showed that on Twitter, the students used their personal accounts in the module to interact with the teacher and students. This may be because Twitter as a social medium has attracted considerable attention among users in Saudi Arabia. Some students used their real names, and the teacher knew their real identities, but most used symbolic images and profile information that did not reflect their true identity, making it difficult for others to know them clearly. It seems the reluctance to choose their real image was an attempt by students to preserve their privacy. Regarding participation, the students showed their digital identity as students in this module through sharing sources and information and posting comments.

However, students not only expressed their identity but engaged in self-expression through the use of cultural, religious and social terms in their comments. It seems such kinds of digital identity work to create a mix of educational and personal posts, contributing to promoting a cohesive social

identity that worked to achieve their educational goals. Thus, I view it as necessary to encourage the emergence of identities that create a balance between the two environments – personal and public – when using social networking in education.

In the case of Facebook, the results showed that almost all the students created a new account for the course. Again, some students used their real names, images and information in their profile through their personal accounts, and the teacher knew their real identities, but most students used symbolic images and profile information that did not disclose their real identities, making it difficult for other students to identify them. The likely explanation for such identities is that students are often not interested in Facebook as a tool for social networking and thus saw no need to update their profiles.

Generally, one can show one's digital identity as a student through the type of posts, which focused mainly on the educational aspects and led the Facebook environment and classroom to be quite similar. The underlying cause of this similarity may be the effect of the teacher's identity on students, which led to a lack of educational and social posts compared to the other networks, with no continuous encouragement for students to participate. This finding is not in line with Naghdipour & Eldridge (2016), they mentioned in their findings that unlike traditional education, students on Facebook were aware of their active agencies. The agency's awareness stemmed from sharing information and posting comments about English vocabulary.

The study found the digital identity of students on WhatsApp could be considered almost mandatory. This tool requires the use of a personal contact number, which may reduce the students' privacy. In addition, the majority of students used personal pictures to identify themselves to others, which may not have been for

the benefit of the educational groups but because this program is a popular communication tool in Saudi society, following Twitter in popularity. The students' digital identities were shown through interaction with colleagues and educational and social comments. There was a lack of posts overall, and there were more messages concerning social, cultural and religious aspects than educational. I am of the view that these social, cultural and religious messages reflect the students' identities and interests, which created a cohesive society. However, the teacher's effective social and teaching presence is an important and influential element to exploit the educational potential of WhatsApp: absence of this component may lead to failure of the students' digital identity to emerge properly.

Regardless of the different influences on identity between the three social networks, it can be concluded that the virtual environment offered by social media helps students develop their identities and express themselves more than in the physical world (classroom environment). In addition, the new digital identities chosen by the students helped them perceive themselves as an active agency or weak agency, which could lead to promoting the transformation of learning from a teacher-centred strategy of teaching to student-centred learning. In fact, students in social media have a chance to become editors in social media. This makes of the student user of social media sites not only a consumer of multimedia devices but also a creator and generator, (*participation metaphors*, Sfard,1998), of the culture of social networking for educational purposes

9.8 Summary of the Chapter

In this chapter, I presented two main aspects: firstly, brief responses to the research questions from the study findings presented in the previous chapters; secondly, the meanings of the main findings emerging from qualitative data

analysis in relation to the wider literature, interpreted through the lens of sociocultural theory.

10 CHAPTER TEN: CONCLUSION

10.1 Introduction

This chapter presents the conclusion of the study. I devoted it to a summary of the study's outcomes. It also shapes recommendations relevant to the principle problem of the study, which is the pedagogical affordances of social media networks in education. Moreover, this concluding chapter will account for some challenges and limitations relevant to this topic.

10.2 Contributions to the Field

10.2.1 Theoretical contribution

This study makes a theoretical contribution to the field of higher education in relation to the use of social media in education.

10.2.1.1 The pedagogical contribution

First, the findings show that social media, from the lens of affordance theory, has pedagogical affordances, namely reflection, social construction of knowledge, collaborative learning and connectivity. However, the students' perceptions of these affordances differed across the three cases, namely Twitter, Facebook and WhatsApp. I argue that such differences are a result of the influence of the social, teaching and cognitive presence of both teachers and students as mentioned in the finding and discussion chapter. More precisely, the teachers' social and teaching presence in social media catalysed students to perceive social media affordances.

This finding may add to affordance theory, as social media, from the perspective of Saudi students and teachers at the University of Ha'il in Saudi Arabia, includes

several pedagogical affordances that may encourage educators and policymakers to implement it in higher education.

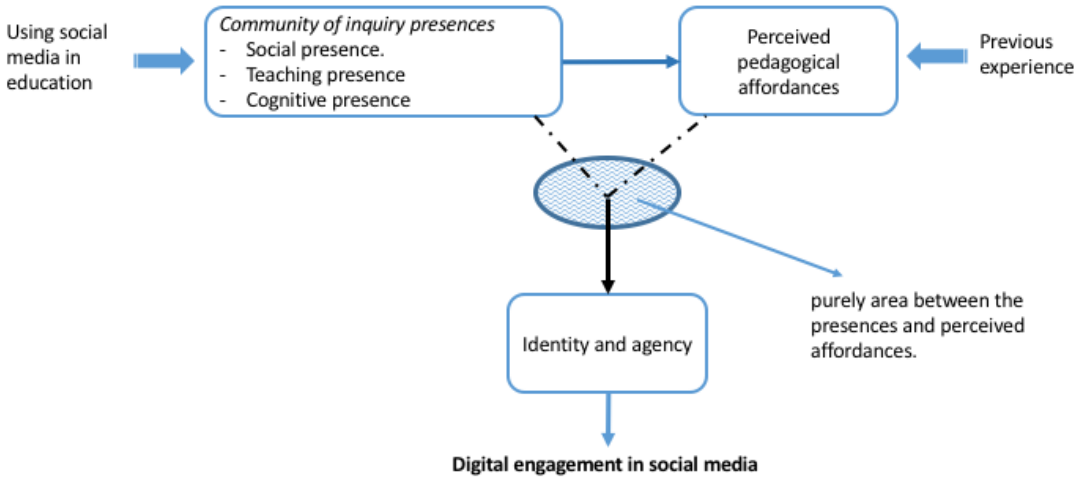


Figure 10.1: Constructing students' and teachers' identity on social media

10.2.1.2 Constructing students and teacher identity on social media

The second contribution of knowledge presents a new understanding of the relation between students' and teachers' perceptions of social media affordances and perceived agency and development of identity. The level of students' and teachers' social, teaching and cognitive presence in the three cases is different, which could influence their perceptions of the pedagogical affordances of social media. That in turn may lead to diversity of perceiving students' and teachers' agencies and developing their identities across the three cases (see Figure 10.1 for a conceptual framework of this claim).

- ***Twitter***

Students in this case study had previous experience in using social media, and they use Twitter effectively. In addition, their perception of the pedagogical affordances was salient or adequate. Furthermore, I should mention the teacher's

social and teaching presence on Twitter was noticeable; consequently, students commonly used Twitter for educational interaction and discussion purposes in addition to exchanging non-educational messages. In this regard, it was clear that the students' social and cognitive presence were empowered by the teacher who has an adequate social and teaching presence and has adopted a student-centred approach on Twitter.

As a result of the above presentation, there is the relation between the influence of the teacher's presence on Twitter and students' perception of the pedagogical affordances of Twitter, social/ cognitive presence and how they perceive their agency. Therefore, the social and teaching presence on Twitter causes a *strong* agency of students thus having an *independent learner identity*. This explains why students were seen as active learners on Twitter. As a matter of fact, the teacher's identity streamed from his perception of the social media affordances and the importance of his presence on Twitter. He saw students as the instruments of his strong agency to perceive his agency and develop his identity to reach fruitful results of using Twitter in higher education.

- ***Facebook***

With the exception of Facebook, students had previous experience in using social media, but their perception of pedagogical affordances was not salient or adequate compared to students on Twitter. Furthermore, I cannot ignore the teacher's teaching presence on Facebook, but his social presence was not noticeable compared to the teacher on Twitter; subsequently, students frequently used Facebook for posting messages for educational interactions and discussions with a few social messages on Facebook. In this regard, it was obvious that the students' cognitive presence was empowered by the teacher who showed some teaching presence more than social presence on Facebook.

From this argument, I can see the relation between the influence of the teacher's presence on Facebook and students' perception of the pedagogical affordances of Facebook, social/ cognitive presence and how they perceive their agency. In fact, the teacher on the Facebook case focused more on teaching presence than social presence. The teacher's strong agency and identity as practiced in the classroom and on Facebook was mainly focused on a teacher-centred approach, adopting the traditional transmission strategy of teaching and making Facebook similar to the classroom setting. This explanation underlines why students' interaction and participation in Facebook were not satisfactory compared with students on Twitter. Therefore, students' identities on Facebook were somewhat similar to their identities in the classroom, and their perceived agency in the classroom and on Facebook was relatively equal.

- ***WhatsApp***

Although students had previous experience in using social media, especially WhatsApp, their perception of the pedagogical affordances was not salient or adequate. Furthermore, I cannot ignore the teacher's social presence on WhatsApp, but his teaching presence was not noticeable; consequently, students frequently used WhatsApp for exchanging non-educational messages instead of educational interactions and discussions. In this regard, it was clear that the students' social presence was empowered by the teacher who has an adequate social presence on WhatsApp.

From this argument, I can see the relation between the influence of the teacher's presence on WhatsApp and students' perception of the pedagogical affordances of WhatsApp, social/ cognitive presence and how they perceive their agency. Therefore, the lack of teaching presence on WhatsApp causes a *weak agency* of students, thus creating a *dependent identity*. As a matter of fact, this explanation

highlights why students on WhatsApp use their real identities on WhatsApp, where they used this platform as a chatroom. In fact, the teacher's identity on WhatsApp streamed from his perception of the social media affordances, but he ignored the importance of his teaching presence on WhatsApp. Therefore, there was a problem in the formation and perception of agency and development of identities for both students and teacher on WhatsApp.

In summary, I can argue that the teachers' belief in the appropriate teaching method in social media, their social and teaching presence, students' social and cognitive presence and the perception of the pedagogical affordances might contribute to the perceptions of the students' and teachers' agencies and the development of digital identity on social media, which could help them take advantage of social networks in higher education. In other words, empowering students to take control of their learning process and giving them the sense of being the center of the educational process helps them engage effectively in discussion, dialogue and sharing ideas and resources to achieve learning goals (the second level of learning, according to sociocultural theory).

- ***identities***

Students in this study had multiple identities, with each identity based on the specific circumstances (personal or public). These identities were subject to the rules and norms governing the process of interaction, which formed the students' personal and social identities. In the real physical environment (in the classroom), based on observation, students are limited to a specific identity as recipients of information, which was a common identity among all students in the three case studies, because the teachers adopted a traditional transmission strategy in the classroom (teacher-centred strategy of teaching). However, when students used

social networks, their identities partly appeared as related to the physical environment (classroom) through the teachers' presentation of some students' posts, which was not possible to show in front of the teacher or other students in the classroom. However, the students' identities in the virtual environment (social media), despite differences in appearance between the three cases (Facebook, WhatsApp and Twitter), emerged through interaction with others. When students interacted within the working groups, they showed digital identities that fit with the working group to create a social identity as a collaborative student. Students actively participating in the working groups perceived their active agency through interaction, sharing resources and adding comments to achieve the lesson's objectives; in other words, they became more self-regulated.

Thus, I can argue that the use of social media contributes to identity theory, as the students transformed their identities between the physical environment (classroom) and the virtual environment (social media) based on their needs and situations. The students' different perceptions of the use of social media in education may have affected the achievement of the ICT module tasks. The findings indicated that there were different views on the use of social networking in education, with students expressing the view that Facebook may not be suitable for teaching and learning. The reason for this is that Facebook contains content that is not acceptable to students and conflicts with the sociocultural norms and customs of Saudi Arabia. Therefore, when there are signs that an educational tool is not accepted in mediating activities or tasks, it is likely that students will not be actively involved or will not benefit from all the pedagogical affordances.

10.2.1.3 Contribution to CoI indicators and sociocultural theory

This part focus on two concepts, namely the use of the local terminology and phrases, religious and cultural messages; and the importance of video calling in social media. These two concepts are elicited from the discussion of findings on what could contribute to the community of inquiry and sociocultural theory.

- ***The use of religious, cultural and local terminology and phrases messages***

The results show that social presence (through the use of the local terminology and phrases, religious and cultural messages) helps in the development of community cohesion and promotes interaction among students. The results showed that the teachers and students on Twitter exchanged such messages more than those who used WhatsApp and Facebook, which led to crossing the boundaries between both students and teacher in the classroom. In addition, such messages develop a new type of harmonious relations between them and builds a social environment in the classroom and on Twitter. In other words, from the social and cultural context in the city of Ha'il, people use some local terminology and phrases to express their opinions and feelings, which are often used only between people who have good ties. Thus, I can claim that the use of the local terminology and phrases beside religious and cultural messages among students and teachers in social media may help students' cognitive development through educational interaction in social media higher education.

This argument may contribute to existing knowledge related to sociocultural theory concerning the first level of learning (social level), which is influenced by the type of language used in the interaction between individuals. I claim that the use of cultural terms may have a direct impact on moving to the second level of

learning (internalizing psychological functions). In addition, this finding may contribute to the community of inquiry framework, in which local terms can be added to the community cohesion indicators in the social presence phase.

- ***The importance of using video calling on social media***

Furthermore, this study (until the data collection in 2014) found there was an issue about video calling on social media (Facebook, WhatsApp and Twitter). This demonstrates that text-based communication will not replace face-to-face communication. The lack of utilizing the video calling function on social media may hinder the process of cognitive development in the first phase of learning at the social level, according to sociocultural theory. Thus, this study makes a theoretical contribution to sociocultural theory in suggesting that direct face-to-face or semi-direct communication through visual contact may help students' cognitive development more than text or voice communication due to the availability of body language, facial expressions and tone of voice, leading to better delivery of meaning than through abstract symbols in texts. Furthermore, video calling in social media could lead to further digital engagement in learning among students.

10.2.2 Practical contribution

10.2.2.1 Preference for using a specific social network

This study also contributes to the field of students' learning by informing teachers about the students' preference for using a specific social network. In this study, I found that students did not prefer to use Facebook in education because it has some aspects that conflict with their culture. The use of such tools may not actively engage students in the module tasks on social media. However, at times, students' preferences for using a particular tool may not be a good choice. For

example, students had the opportunity to use WhatsApp in this study, but they did not fully benefit from its affordances as a pedagogical tool compared with Twitter. As I mentioned earlier, this was due to the teacher's role on WhatsApp and the lack of his social and teaching presence.

10.2.2.2 Social, teaching and cognitive presence

Another important practical contribution is that the use of social media in education needs to consider the social, teaching and cognitive presence among teachers and students. The teacher using Twitter attempted to maintain his presence with students to enhance their social and cognitive presence. In contrast, the teacher in the Facebook case was more focused on his teaching presence, at the expense of his social presence, which led to the replication of his classroom role on Facebook. In terms of WhatsApp, the teacher did not put effort into his social presence, so it was not consistent with students' expectations of using social networking in the module.

10.3 Implications of the Study

As mentioned before, the main scope of this research is to explore and investigate the pedagogical practices of learners and teachers in using social media networks. This research implemented a conceptual framework to detect and define the role of social media networks in the field of education in the context of Saudi Arabia. As relevant to the study of the pedagogical impacts of social media tools, a theoretical framework has been provided to guide and enlighten the research. Affordance theory has been implemented to shape the investigation applied to tutors and students at the College of Education. This part presents implications for policymakers and teachers in Saudi Arabia.

10.3.1 Implications for policymakers in Saudi Arabia

It is clear that the Saudi government and educators are working to provide the human and resources potential necessary to integrate technology in education; this is evident through projects and programmes developed in Saudi Arabia to improve education at all levels and thus build a community of knowledge. Therefore, the findings of this study may help policymakers draw up a general plan to integrate social media in education and develop solutions to the problems that prevent integration.

The widespread use of social networks within Saudi society puts decision makers under pressure to fill the gap that may emerge between the educational system and students born and growing up in the digital environment in the second millennium, especially when they transfer to high school. They will have certain expectations of school, so they may be shocked about the reality of poor technology and digital immigrant teachers (Al Saleh, 2016). Therefore, it would be wise to have a national plan to deal with the strong trend for using social media and the consequent potential of the knowledge and information revolution. This should be kept in mind when preparing teachers and students, as the widespread use of social media within communities seems to portend on its effects on education.

10.3.2 Implications for teachers

The results show that the teacher's social and teaching presence plays a crucial role in the development of students' perceptions of the pedagogical affordances of social networks, digital identity and perceived agency. Thus, when using social media in higher education, teachers need to recognize their new roles in directing the learning process. To do so, they should maintain their social and teaching

presence on social media, use appropriate teaching strategies consistent with the student-centred strategy of learning and provide scaffolded learning for students to achieve the educational goals.

Furthermore, social media has several technical and pedagogical affordances, as seen through the lens of affordance theory, which may help enhance students' learning skills in completing the course activities. Students have preferences for specific social networks, and this may lead them to accept or reject its use in education. Therefore, teachers should realize the differences between the tools in terms of technical affordances; for example, students in this study wanted social media that offers video calling to promote synchronous contact. Clearly, teachers' perceptions of these affordances could help them choose an appropriate tool when designing the course.

In addition, course design is one of the most important aspects that teachers need to consider when deciding to use social media in education. This includes determining general and specific module objectives, ways to achieve these objectives, selecting an appropriate social media that is consistent with students' culture and preferences, clearly defining the aims and ways to use such tools for students and developing methods to assess students' participation. These aspects should be carefully considered for successful implementation of social media in education. The use of technology in education, including social media, should not be a goal in itself; rather, pedagogical affordances are the heart of this issue. The technology by itself does not offer learning; rather, its mediating of pedagogical affordances helps students gain knowledge. Thus, I recommend providing training for teachers in all disciplines to define the uses of social media in education. In addition, I recommend teachers choose aims and activities that can be applied in social media and determine methods to assess students'

participation and activities. Also, it would be useful to benefit from previous successful experiences of Western countries in the field of instructional design and develop these experiences to suit the Saudi context.

One result of the study concerned the impact of social and teaching presence on the students' sense of digital identity in social media. Thus, it is necessary to bear in mind the importance of developing students' digital identity when using social media through the teacher maintaining a presence with the students online and forming new relationships that help students overcome traditional boundaries found in the classroom. A friendly environment promotes students to be more confident in self-expression to achieve their needs. The context surrounding the students in the classroom and in social media is different; in both contexts (classroom and social media), sociocultural factors may directly affect the students. This in turn may result in the formation of identities based on power relations. Students' reactions in each environment are different depending on the identities they choose or show to others (multiple identities). They may interact with others in the classroom in a different way than on social media. For example, the findings of this study revealed – in the case of Twitter specifically – that the students showed self-confidence, overcame shyness, engaged in interaction and discussion, reflected, shared resources, built relationships with others and learned collaboratively. These results confirm that the adoption of social media in education provides support for students to transform their identities. To promote the transformation of identity, the teacher needs to achieve a balance between a social and teaching presence to develop an attractive environment for interaction among community members (teachers and students). Indicators of the community of inquiry framework can be used to draw guidelines for teachers to

identify the roles necessary when using social media in education to ensure the success of such initiatives.

10.4 Limitations of the Study

All studies have limitations which need to be considered in addressing the research implications. Among the main limitations of this study, the first was the small sample size, as only 15 students and three teachers agreed to participate. Moreover, a limited number of participants was necessary due to the lack of time for data collection, as I began collecting data in the second half of the second semester. The size of the sample may have affected the quantity and quality of the data. A larger study sample would provide a fuller picture and more detail of the issues under investigation.

First, the study focused on students taking the ICT module at the College of Education, University of Ha'il. The reason for this choice was that I am a faculty member in the Education Technologies department, resulting in ease of communication with teachers and ease of access to the needed information and data. In addition, this course focuses on the process of educational communication, so teachers aim to set up a practical environment for students to understand the concept of communication and its importance in education through the use of social networking for communication, education and learning. However, it is important to acknowledge that investigating the pedagogical affordances of social media in different modules might give us different perceptions, behaviours and identities.

The study sample only included students and teachers, mainly due to time constraints. Widening the sample to include parents, administrators and other

decision makers might enrich the results of the study and provide additional detailed explanations of the use of social networking in higher education.

In addition, the study used two tools (classroom and online observations and interviews) to identify the pedagogical affordances of social networks, which might have limited the amount and quality of information. The use of questionnaires to obtain data on the participants' technical knowledge backgrounds and their identities used on social media could give a clearer perception of the process of digital identity development. In addition, the use of a community of inquiry questionnaire might provide further details about the development of students' and teachers' social, cognitive and teaching presence and the impact of variables such as specialization, academic level, skills in using social media, number of social media accounts, number of digital identities used on social media, etc. Moreover, focus groups could provide valuable data by offering the opportunity for students or teachers to talk about the pedagogical affordances of social media, identities and the most significant challenges confronted when using social networks in education.

Furthermore, one of the problems in the early stages of this study was the difficulty of finding existing research concerning the use of social media in the Saudi context. To my knowledge, there is a dearth of such studies. Those that were found tended to use a quantitative approach, focusing on the general uses of social media and the impact of social media on the students' culture or society. To overcome this problem, I reviewed the literature from other contexts to identify associated social networking concepts, philosophical concepts, theoretical frameworks, methodologies and the main findings and conclusions of interest. I benefited from reviewing the literature, considering the differences between the

Saudi context and the other contexts in terms of social, cultural, economic and historical factors.

Furthermore, the sample comprised male participants only. Conducting a study with male and female participants might give a clearer understanding of the use of social networks in Saudi Arabia. The reason for not including female participants was the education system in Saudi Arabia, which is based on segregation between males and females. Therefore, it would have been difficult to conduct this study with female participants, particularly because I used observation and interview methods that require direct communication and video recording lectures in the classroom to collect data; to protect female privacy, this is not allowed in the Saudi context.

In addition, I faced problems in undertaking interviews, as the students were not accustomed to such studies or data collection methods. Studies conducted in the Saudi context tend to adopt a quantitative approach, employing questionnaires. Thus, when interviewing students, I faced some obstacles, including some students thinking their participation might contribute to their grades in the ICT module. In addition, at the beginning of the interviews, some students provided information that was not relative to the interview questions, or they exaggerated the use of social media in education. This problem was addressed by emphasising once again the aim of the interviews, which was to seek data for research purposes only, and that all the information provided in the interviews should describe the actual use of social media.

Finally, I encountered a problem when analysing the data in that participants used slang or local or cultural phrases which have no equivalent in English. To maintain the accuracy of quotations, I tried to find the closest meaning to that intended by

the participants. Moreover, I faced a problem in translating the original Arabic quotations by the supervisors as we each comprehended these in different ways. To reach agreement on the meaning, we consulted a PhD student working as a lecturer at the University of Ha'il, who was of the opinion that the meaning was consistent with my understanding, even though we all spoke Arabic. This demonstrates that conducting interviews in the vernacular can be problematic when it comes to the analysis of data because there may be different interpretations, particularly depending on the area the various participants are from.

10.5 Suggestions for Further Research

While seeking answers to the research questions and, in light of the findings and limitations of the study, some questions emerged that were not addressed by this study and could enrich the field of research on the use of social media in education. Here, I address several areas that might prove fruitful for further research.

First, this study adopted an interpretative approach, with the tools used to collect data limited to observation and interviews. Another approach would be to use mixed methods, collecting qualitative and quantitative data to identify the pedagogical affordances of social media and digital identity. A quasi-experimental study could also be conducted to compare groups using different social networks to identify the various impacts on students' perceptions of the pedagogical affordances and their engagement in critical refection. This would lead to a different understanding of pedagogy, particularly concerning critical reflection in social media.

Moreover, this study did not focus on students' areas of specialization, which might highlight different perceptions of the pedagogical affordances offered by social media.

In addition, the findings of this study indicated that the students believed the lack of visual communication in social media (Facebook, WhatsApp and Twitter) to be one of the technical deficits. This issue requires further research to identify the importance of visual communication for students on social media and how it might improve communication, particularly with regard to students' critical thinking. This might not only enrich the field of research in social media but also help policymakers and educators identify appropriate social networking tools for use in education.

Furthermore, studying contextual factors might help provide a deeper understanding of the use of social media in higher education. The difference in the context of learning may have an impact on the level of students' use of social media and their perceptions of the technical and pedagogical affordance of social networking and the development of identity. This study focused on students studying on a full-time basis at the University of Ha'il in Saudi Arabia. Therefore, conducting a study with a sample of students studying, for example, at the Open University or the Saudi Electronic University might provide rich data and findings to enrich the research field concerning the use of social media in higher education.

Finally, since this study was applied at the higher education level, I suggest conducting research on the use of social networks in elementary, intermediate and secondary schools. The importance of conducting studies in public education stems from the fact that students, especially primary school pupils, have grown

up with the emergence of social networks, and they have become part of their daily lives. The economic level of Saudi Arabia has helped this new generation obtain multiple types of technical devices, giving them access to different types of social networking sites from any place and at any time. Thus, we may find that the idea of using social networking in education may gain greater acceptance among the younger generation.

10.6 Concluding Remarks

To begin, I would like to demonstrate that the motivation for conducting the current study stems from two main aspects. First, when I was a student, I was interested in following technical developments because I noticed the great difference in learning when teachers used those instructional means, models and devices. Secondly, from my experience in teaching at the University of Ha'il, I realized that the use of technology in education, especially through the Internet, is a complex process and needs an effort to understand its pros and cons and explore its pedagogical affordances and aspects that contribute to the development of students' and teachers' identities. For this reason, I began this study to find answers to many questions that may contribute to the adoption of social networking in education.

This study reached several findings and conclusions regarding the pedagogical and technical affordances of social networks. Therefore, I hope the findings help decision makers adopt the use of social media in higher education to create an interactive and continuous learning environment between teachers and students. In addition, when I use social media in education, I will consider the issue of social and teaching presence because it plays a crucial role in the effectiveness of communication and discussion between students/ teachers in any course. It also

contributes to enhancing students' perception of their agencies and developing their digital identities on social media.

Students and teachers also need to benefit from their previous experience and knowledge about the technical affordances of social media in education. These experiences could facilitate the adoption of social networks in education. This ambition can be achieved by encouraging them to participate effectively and continuously. To achieve this, I will raise the level of awareness of social and cognitive presence by holding training sessions that explain the importance of presence and how to raise those levels in social networks.

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APPENDICES

Appendix 1: Certificate of Ethical Approval

STUDENT HIGHER-LEVEL RESEARCH
DISSERTATION/THESIS

UNIVERSITY OF EXETER

Graduate School of Education

Certificate of ethical research approval

DISSERTATION/THESIS

To activate this certificate you need to first sign it yourself, and then have it signed by your supervisor and finally by the Chair of the School's Ethics Committee.

For further information on ethical educational research access the guidelines on the BERA web site: http://www.bera.ac.uk/publications and view the School's Policy online.

READ THIS FORM CAREFULLY AND THEN COMPLETE IT ON YOUR COMPUTER (the form will expand to contain the text you enter). **DO NOT COMPLETE BY HAND**

Your name:	Yaser Abdullah Alkhabra
Your student no:	580041931
Return address for this certificate:	46 Julius House, New North Road, Exeter, EX44HG
Degree/Programme of Study:	PHD Education 4 year
Project Supervisor(s):	Nasser Mansour AND Judith Kleine-Staarman
Your email address:	yaa203@exeter.ac.uk
Tel:	07545533534

I hereby certify that I will abide by the details given overleaf and that I undertake in my thesis to respect the dignity and privacy of those participating in this research.

I confirm that if my research should change radically, I will complete a further form.

Signed:..... Yaser Alkhabra..... **date:**...05/03/2014.....

NB *For Masters dissertations, which are marked blind, this first page must* ***not be included*** *in your work. It can be kept for your records.*

Chair of the School's Ethics Committee
updated: April 2012

Certificate of ethical research approval
DISSERTATION/THESIS

Your student no: 580041931

Title of your project:
The influence of sociocultural context on uptake of blended learning at the University of Ha'il in Saudi Arabia

Brief description of your research project:
This research will be conducted in the second term of the 2013/ 2014 academic year at the University of Ha'il in Saudi Arabia. This study aims to explore the influence of sociocultural context on uptake of blended learning by faculty members and undergraduate students at the University of Hail in Saudi Arabia. It also addresses the question how faculty members and students experience and perceive blended learning; and explore the potential contradictions that emerge when blended learning is used in Education Technology and Communication Module at the University of Ha'il in Saudi Arabia.

The proposed research is a case study of Education Technology and Communication Module, at the University of Ha'il in Saudi Arabia. This study will adopt qualitative methods approach through the lens of activity theory, involving classroom observation, web observation, individual face-to-face interviews, and documentary evidence. Students and 4 faculty members will be observed in classrooms and in online. In the face-to-face interviews, data will be collected from 20 students and 4 faculties of members. Thematic analysis will be adopted for analysing transcripts from observation and interviews data to be collected.

Give details of the participants in this research (giving ages of any children and/or young people involved):
This study will be conducted in one university, in Saudi Arabia.

- The level five of undergraduate students male how are studying Education Technology and Communication Module (ETEC 214) in Education Technology in the college of education at the University of Ha'il in Saudi Arabia
- Faculty members male at the University of Ha'il in Saudi Arabia how are teaching (Education Technology and Communication Module).

Give details (with special reference to any children or those with special needs) regarding the ethical issues of:

a) **informed consent: Where children in schools are involved this includes both head teachers and parents). Copy(ies) of your consent form(s) you will be using must accompany this document.**

To carry out my study, consent will be obtained from the GSE at the University of Exeter. Then, consent from the University of Ha'il will be obtained to conduct the study. The participants (students and faculty members) will be given a letter that outlines the aims of the study, the importance of their participation, how data will be collected and used, In addition, all participants (students and faculty members) will be informed about people who will have access to the data (BARA, 2011, p: 5).

Then contact number and e-mail address of the researcher will be included in the letter for any question or concern that need to be discussed. In addition, the participants (students and faculty members) will be informed that they have the right to refuse to answer any question and their right to withdraw from the study at any time during the study; therefore, there is no force or obligation to enrolling in the study (BERA, 2011, p: 6). Finally, consents will be obtained from all participants (students and faculty members) who choose to participate in the interviews and observations. Copies of consent forms to be signed by students and faculty members, to voluntarily participate in the study, are attached.

Chair of the School's Ethics Committee
updated: April 2012

b) **anonymity and confidentiality**

All the participants (students and faculty members) will be assured in the consent forms of confidentiality and anonymity. Names and information will be kept completely confidential and will not be disclosed, as pseudonyms will be given to each participant. All data such as interview transcripts, audio and video recording will be stored in a secure and safe place in compliance with the requirements of the Data Protection Act (1998) (BERA, 2011, p:7). All the MS Words files of the data as well as all electronic data (including audio and video recording) will be stored on an encrypted (password protected) laptop and will not be stored on insecure devices such as memory sticks, so that no one else can access the data. The hard copies of transcripts will be stored in a locked filing cabinet. The data collected will be only used for the purposes described above.

Give details of the methods to be used for data collection and analysis and how you would ensure they do not cause any harm, detriment or unreasonable stress:

Four methods are to be used for data collection. These include observing 4 faculty members and all students in classrooms. Observing 4 faculty members and all students in on online. interviewing (4 faculty members and 20 students), and documentary evidence.

Classroom observation: after obtain consent from the Dean of the College of Education, 4 faculty members and all students will be observed in classrooms. The participation is optional, and there will be no harm or stress caused by the participation.

Web observation: after obtain consent from the Dean of the College of Education, 4 faculty members and all students will be observed in on online. The observation focus will be on the use of Web 2.0 tools by participants (students faculty members). The participation is optional, and there will be no harm or stress caused by the participation.

Interview: semi-structured interview will be carried out with 4 faculty members, 20 students to study in depth the influence of sociocultural context on uptake of blended learning by faculty members and undergraduate students at the University of Hail in Saudi Arabia; and their experience and perception toward blended learning. The participation also is optional and a copy of interview transcript will be send by email to any participant who express his interest, so that he can comment on and edit it as he sees fit.

Documentary evidence: after obtaining the relevant consent, all related documents at the university of Ha'il will be gathered to gain comprehensive understanding of the issue under exploration.

Thematic analysis will be implemented, by the help of the qualitative analysis software (NVivo), as a form of analysis of the qualitative data to be collected.

Give details of any other ethical issues which may arise from this project (e.g. secure storage of videos/recorded interviews/photos/completed questionnaires or special arrangements made for participants with special needs etc.):

All the interviews' records, observation videos and sheets, and printed copies of the participants' interaction in online will be kept confidential and stored securely in a locked cabinet while conducting the fieldwork as mentioned earlier.

Give details of any exceptional factors, which may raise ethical issues (e.g. potential political or ideological conflicts which may pose danger or harm to participants):

I will inform faculty members that participating in the study is not related to their annual report, and the students' course grade as well.

This form should now be printed out, *signed by you on the first page and sent to your supervisor to sign. Your supervisor will forward this document to the School's* ***Research Support Office*** *for the Chair of the School's Ethics Committee to countersign. A unique approval reference will be added and this certificate will be returned to you to be included at the back of your dissertation/thesis.*

N.B. *You should not start the fieldwork part of the project until you have the signature of your supervisor*

Chair of the School's Ethics Committee
updated: April 2012

This project has been approved for the period: 16.03.2014 **until:** 22.05.2014

By (above mentioned supervisor's signature): Nasser Mansour **date:** 18/03/2014

N.B. To Supervisor: *Please ensure that ethical issues are addressed annually in your report and if any changes in the research occur a further form is completed.*

GSE unique approval reference: D|13|14|21

Signed: P.L.D **date:** 26/3/14
Chair of the School's Ethics Committee

Chair of the School's Ethics Committee
updated: April 2012

Appendix 2: Permission form the University of Hail

وزارة التعليم العالي
جامعة حائل
Ministry of Higher Education
University Of Hail
كلية التربية
College of Education

بسم الله الرحمن الرحيم

مكتب العميد
Dean's Office

الرقم: .....
التاريخ: .....
المرفقات: .....

إلى من يهمه الأمر

تفيد عمادة كلية التربية بجامعة حائل بأنه لا مانع لدينا من إجراء الباحث/ ياسر عبدالله الخبراء، المبتعث من كليتنا لجامعة اكستر في بريطانيا، لإجراء دراسته في الكلية وجمع البيانات من طلاب كلية التربية وأعضاء هيئة التدريس في الفصل الدراسي الثاني ١٤٣٤-١٤٣٥هـ في الفترة من ٢٠١٤/٣/١٦ إلى ٢٠١٤/٥/٢٢م، وذلك بهدف إتمام بحث الدكتوراه المعنون"تأثير السياق الثقافي والاجتماعي على تبني التعليم المدمج في التعليم العالي".

عميد كلية التربية

د. فرحان بن سالم العنزي

ص. لسعادة مشرف قسم الوسائل وتكنولوجيا التعليم
ص. لمكتبنا

ص.ب: ١٨١٨ - حائل - المملكة العربية السعودية - هاتف: ٠٦٥٤٣٦٢٢١ - فاكس: ٠٦٥٣٢٣٩٣٢
P.O.Box: 1818 - Hail- Saudi Arabia- Tel : 065436221 -Fax: 065323932

Appendix 3: Consent form for the students

GRADUATE SCHOOL OF EDUCATION

Project title: **The influence of sociocultural context on uptake of blended learning at the University of Ha'il in Saudi Arabia**

CONSENT FORM FOR THE STUDENTS

I have been fully informed about the aims and purposes of the project.

I understand that:

There is no compulsion for me to participate in this research project and, if I do choose to participate, I may at any stage withdraw my participation

I have the right to refuse permission for the publication of any information about me

Any information which I give will be used solely for the purposes of this research project, which may include publications

If applicable, the information, which I give, may be shared between any of the other researcher(s) participating in this project in an anonymised form

All information I give will be treated as confidential

The researcher(s) will make every effort to preserve my anonymity

....
(Signature of participant) (Date)

.....
(Printed name of participant)

One copy of this form will be kept by the participant; a second copy will be kept by the researcher

Contact phone number of researcher (Yaser Alkhabra): UK +447545533534.....Saudi +966555169193

If you have any concerns about the project that you would like to discuss, please contact:

Alkhabra@gmail.com
OR
Yaa203@exeter.ac.uk

Data Protection Act: The University of Exeter is a data collector and is registered with the Office of the Data Protection Commissioner as required to do under the Data Protection Act 1998. The information you provide will be used for research purposes and will be processed in accordance with the University's registration and current data protection legislation. Data will be confidential to the researcher(s) and will not be disclosed to any unauthorised third parties without further agreement by the participant. Reports based on the data will be in anonymised form.

Appendix 4: Consent form for faculty members

GRADUATE SCHOOL OF EDUCATION

Project title: **The influence of sociocultural context on uptake of blended learning at the University of Ha'il in Saudi Arabia**

CONSENT FORM FOR THE FACULTY MEMBER

I have been fully informed about the aims and purposes of the project.

I understand that:

There is no compulsion for me to participate in this research project and, if I do choose to participate, I may at any stage withdraw my participation

I have the right to refuse permission for the publication of any information about me

Any information which I give will be used solely for the purposes of this research project, which may include publications

If applicable, the information, which I give, may be shared between any of the other researcher(s) participating in this project in an anonymised form

All information I give will be treated as confidential

The researcher(s) will make every effort to preserve my anonymity

....
(Signature of participant) (Date)

.....
(Printed name of participant)

One copy of this form will be kept by the participant; a second copy will be kept by the researcher

Contact phone number of researcher (Yaser Alkhabra): UK +447545533534……Saudi +966555169193

If you have any concerns about the project that you would like to discuss, please contact:

Alkhabra@gmail.com
OR
Yaa203@exeter.ac.uk

Data Protection Act: The University of Exeter is a data collector and is registered with the Office of the Data Protection Commissioner as required to do under the Data Protection Act 1998. The information you provide will be used for research purposes and will be processed in accordance with the University's registration and current data protection legislation. Data will be confidential to the researcher(s) and will not be disclosed to any unauthorised third parties without further agreement by the participant. Reports based on the data will be in anonymised form.

Appendix 5: Information letter for students

Information letter for student at The University of Ha'il

Dear student

I am a PhD student at the University of Exeter and I am conducting a study entitled: The influence of sociocultural context on uptake of blended learning at the University of Ha'il in Saudi Arabia, to complete my PhD degree. Four methods (classroom observation, web observation, interviews, and documentary evidence) will be used to gather data about your experiences and perceptions toward blended learning in higher education.

To achieve this aim, it requires your participation by being observed in the classroom, online, and then interviewed. All names and information will not be disclosed because it will be confidentially kept by giving pseudonyms. All the information and data will be used for the research purposes and will be kept in a safe place. Lastly, I want to be sure that all kind of data gathering will be destroyed after finishing the study.

I greatly appreciate your participation in this study, and do not hesitate to contact me if you have any concerns about this study.

The researcher

Yaser Alkhabra

Mobile phone: 0555169193

Yaa203@exeter.ac.uk or Alkhabra@gmail.com

Appendix 6: Information letter for faculty members

Information letter for faculty members at The University of Ha'il

Dear lecturer

I am a PhD student at the University of Exeter and I am conducting a study entitled: The influence of sociocultural context on uptake of blended learning at the University of Ha'il in Saudi Arabia, to complete my PhD degree. Three methods (classroom and web observation, interviews, and documentary evidence) will be used to gather data about your experiences and perceptions toward blended learning in higher education.

To achieve this aim, it requires your participation by being observed in the classroom, in online, and then interviewed. All names and information will not be disclosed because it will be confidentially kept by giving pseudonyms. All the information and data will be used for the research purposes and will be kept in a safe place. Lastly, I want to be sure that all kind of data gathering will be destroyed after finishing the study.

I greatly appreciate your participation in this study, and do not hesitate to contact me if you have any concerns about this study.

The researcher

Yaser Alkhabra

Mobile phone: 0555169193

Yaa203@exeter.ac.uk or Alkhabra@gmail.com

Appendix 7: Arabic information letter for students

خطاب معلومات البحث لطالب في جامعة حائل

عزيزي الطالب

السلام عليكم ورحمة الله وبركاته

انا طالب دكتوراه في جامعة اكستر وأجري دراسة بعنوان: تأثير السياق الاجتماعي والثقافي على تبني التعليم المدمج في جامعة حائل بالمملكة العربية السعودية، وذلك لإكمال درجة الدكتوراه. سوف يتم استخدام اربع أدوات بحثية لجمع بيانات عن الادوار والتصورات نحو التعليم المدمج، وهي ملاحظات في الفصل وتحليل نصوص المناقشات عبر الانترنت والمقابلات الشخصية.

لتحقيق هذا الهدف فإني أحتاج مشاركتك فيه من خلال ملاحظات الفصل، المشاركة عبر الانترنت، ومن ثم المقابلة الشخصية. إن جميع الاسماء والمعلومات لن يتم الكشف عنها حيث سيتم حفظها بسرية مع إعطاء رمز لكل شخص. إن جميع المعلومات والبيانات المستخلصة سوف تستخدم لأهداف بحثية وسوف تحفظ في مكان آمن. بالإضافة لذلك، أريد ان أؤكد على أن جميع أنواع البيانات المجمعة سوق تتلف بعد الانتهاء من الدراسة.

أقدر كثيراً مشاركتك في هذه الدراسة، ولا تتردد في الاتصال بي إذا كان لديك أية أسئلة حول هذه الدراسة.

الباحث

ياسر عبدالله محمد الخبراء

جوال: ٠٥٥٥١٦٩١٩٣

بريد الكتروني

yaa203@exeter.ac.uk

alkhabra@gmail.com

Appendix 8: Arabic information letter for teachers

خطاب معلومات البحث لعضو هيئة تدريس في جامعة حائل

عزيزي عضو هيئة التدريس

السلام عليكم ورحمة الله وبركاته

انا طالب دكتوراه في جامعة اكستر وأجري دراسة بعنوان: تأثير السياق الاجتماعي والثقافي على تبني التعليم المدمج في جامعة حائل بالمملكة العربية السعودية، وذلك لإكمال درجة الدكتوراه. سوف يتم استخدام أربع أدوات بحثية لجمع البيانات عن الأدوار والتصورات نحو التعليم المدمج، وهي ملاحظات في الفصل وتحليل نصوص المناقشات عبر الانترنت والمقابلات الشخصية.

لتحقيق هذا الهدف فإني أحتاج مشاركتك فيه من خلال ملاحظات الفصل، المشاركة عبر الانترنت، ومن ثم المقابلة الشخصية. إن جميع الاسماء والمعلومات لن يتم الكشف عنها حيث سيتم حفظها بسرية مع إعطاء رمز لكل شخص. إن جميع المعلومات والبيانات المستخلصة سوف تستخدم لأهداف بحثية وسوف تحفظ في مكان آمن. بالإضافة لذلك، أريد ان أؤكد على أن جميع أنواع البيانات المجمعة سوق تتلف بعد الانتهاء من الدراسة.

أقدر كثيراً مشاركتك في هذه الدراسة، ولا تتردد في الاتصال بي إذا كان لديك أية أسئلة حول هذه الدراسة.

الباحث

ياسر عبدالله الخبراء

جوال: ٠٥٥٥١٦٩١٩٣

بريد الكتروني

yaa203@exeter.ac.uk

alkhabra@gmail.com

Appendix 9: Interview schedule for teachers

Interview questions – teachers

1. Do you use social media in your daily life? For what?
2. What kind of social media do you use? Why?
3. There are some reports demonstrated that the use of social media is very high in Saudi Arabia, what do you think the reason behind of widespread of using social media?
4. Do you think this will affect the higher education? In what way?
5. Do you think the Saudi student is ready to use social networks in education?
6. Way do you choose (Twitter, Facebook, WhatsApp) in this module? what does it affords for?
7. How do you design this module?
8. What is the aim of the module? How is this aim achieved?
9. What are the benefits of using (Twitter, Facebook, WhatsApp) in this module?
10. What do you expect from (Twitter, Facebook, WhatsApp)? Does it meet these expectations?
11. Do you think the use of (Twitter, Facebook, WhatsApp) in this module helped you? How?
12. How (Twitter, Facebook, WhatsApp) can help Improve your teaching?
13. What is the your role in these environment, classroom and on (Twitter, Facebook, WhatsApp)?
14. How did you encourage and stimulate students' interaction in (Twitter, Facebook, WhatsApp)?
15. How did you deal with students who did not participate in (Twitter, Facebook, WhatsApp)?
16. What obstacles did you face in using (Twitter, Facebook, WhatsApp)? How did you overcome it?
17. Is there anything you would like to add?

Appendix 19: Interview schedule for students

Interview questions – students

1. Do you use social media in your daily life? For what?
2. What kind of social media do you use? Why?
3. There are some reports demonstrated that the use of social media is very high in Saudi Arabia, what do you think the reason behind of widespread of using social media?
4. Do you think this will affect the higher education? In what way?
5. Do you think that you are ready to use social networks in education? Way?
6. Do you think the use of (Twitter, Facebook, WhatsApp) in this module helped you? How?
7. What is the your role in these environments, classroom and on (Twitter, Facebook, WhatsApp)?
8. How much time do you spent on (Twitter, Facebook, WhatsApp)?
9. Which of the two environments do you feel that you actively engage with more, the classroom or online activities? why?
10. How do you think about the work groups in this course, and how did it help you to achieve in the activities?
11. What difficulties did you face within your workgroup?
12. What obstacles did you face in using (Twitter, Facebook, WhatsApp)? How did you overcome it?
13. Is there anything you would like to add?